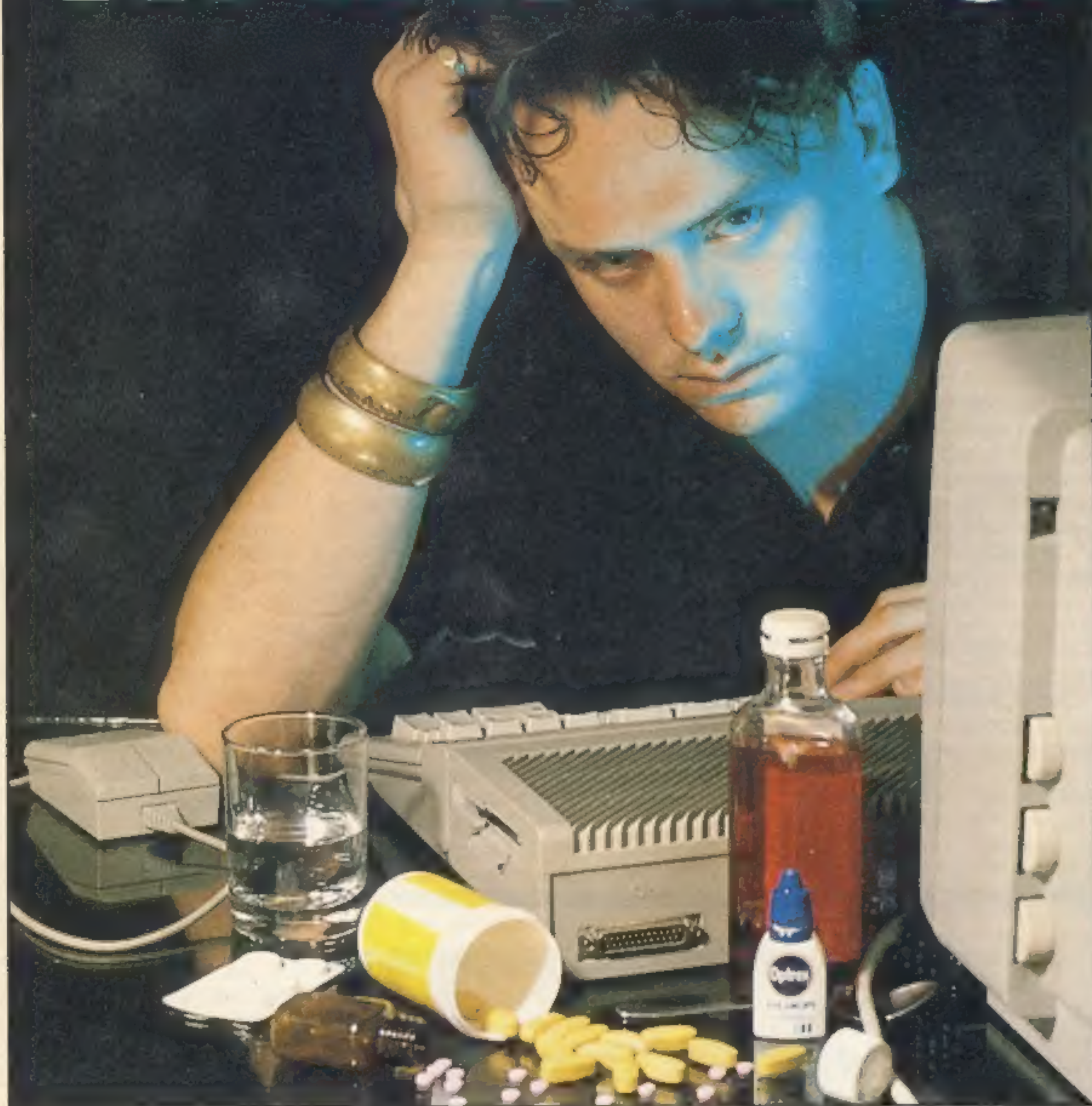


ONLY
58p!

COMPUTER EXPRESS

First news, best buys – every week • Issue 31 • 10 June 1989

WARNING



Computers can seriously damage your health

• New research – page 2 • How safe are you? – page 15

ATARI SENSATION

Stunning new games machine

First news page 3

HAM AND AWAY!

The best
graphics package
for the Amiga

page 28

Program for the 90s

Is this the end of programming
languages

Page 20

ONE IN A MILLENNIUM



Space strategy game blasts off

SAVE A MASSIVE

£10

EXPRESS VOUCHERS page 51

SECTIONS FOR Amiga • Atari ST • PC • PCW • Spectrum • CPC • C64 • QL • BBC • MSX • Archimedes

World's fastest laptop arrives

The world's first 25 Mhz laptop is now available in the UK to people who are prepared to pay for speed.

California based Dolch American Systems launched the Dolch some five months ago but demand has kept it away from these shores. Now Magnerra Innovations is shipping the machine over here.

Magnerra is keen to point out the machine's three slot internal expansion for extra memory, graphics cards and the like, as well as the obvious advantages of high speed processing.

Such is confidence of the firm in Dolch that it reckons designers will be using it for Computer Aided Design - generally regarded as an impossibility on portable screens.

Unfortunately the fully blown model is way out of reach for most of us costing a hefty £7,295. It has 2Mg of RAM, a 40Mg disk drive and weighs a considerable 20 pounds. Magnerra is describing it as "a true desktop replacer". Anyone interested should call 01 906 3945.



• The Dolch vita: World's fastest laptop?

VDU MISCARRIAGE RIDDLE: DOCTORS NEAR SOLUTION

A three year search for the truth behind allegations that computer use can cause miscarriages is nearing completion with researchers currently analysing the findings.

Since 1986 the Health and Safety Executive has been testing on some 400 women in the Reading area who use computers. They hope to lay bare the suspicions of many that computing for pregnant women is hazardous.

Whilst tests have been carried out before by various organisations such as Friends of the Earth this is being flagged as the most accurate of its kind in the world. Researchers at the London School of Hygiene and Tropical Medicine believe that much of the research to date is "very poor" and has sometimes been undertaken with preconceived notions of scandal.

The case tests are setting out to find out why a higher proportion of miscarriages can affect women who work with computers than those who don't. Some of the women involved have experienced miscarriages before, some are first time pregnancies and some have a track record of problem free pregnancies.

One school of thought puts the high proportion of difficulties down to radiation emitted from monitors. However, many hold the view that it may have more to do with posture or stress.



• Radiate and fade away?

The Health and Safety Executive has been at pains to keep its activities quiet since the research began. However, leading researcher Dr Eve Roman told Express that the three year experiment has now come to an end and that medical experts are currently poring over the findings looking for a common link.

"We decided to take a different approach and to validate the outcomes as carefully as possible. Some research in the past has been poorly designed but we think we've overcome that." She said that the definitive findings would be published before the end of this year.

A survey by the Council of

Civil Service Unions in 1984 caused an uproar when it found a 20 per cent higher incidence of reproductive troubles amongst women using computers.

The Reading experiment will be studied with considerable interest by a multitude of organisations and individuals campaigning for strict controls on VDUs. Founder member of VDU Workers Rights Tony Webb welcomed the research but expressed concern that tests on 400 women was still not a big enough project.

"We all want to be reassured that no attempts are being made to muddy the water. I don't know how significant this is going to be but it's

rather like trying to find a needle in a haystack." However, he did state that the doctors working on the project are highly regarded.

"All responsible research is useful and it really can prise open opportunities to undertake large scale studies." VDU Workers Rights itself has gained the support of some 100 Opposition MPs including the spokesman for trade and industry Michael Meacher.

Webb also called for hardware manufacturers to act on their own initiative and cut down radiation from computer monitors. Both IBM and Olivetti have been praised for modifying their screens. However, some manufacturers have not made attempts to change their kit up till now.

Notably, Amstrad has come under attack for the high radiation emission from its PCW and PC ranges. Webb measured 200 times more radiation from an Amstrad PC screen than from an IBM one. Even so, Amstrad machines do come within Governmental safety standards. And there is no definite proof that radiation is the cause of miscarriages or any other physical problems.

The Reading experiment aims to find out exactly why more miscarriages occur amongst computer users.

• The hazards of working with computers are outlined in this week's feature on page 15

VIRGIN TERRITORY

Roving tycoon and Virgin supremo Richard Branson is so keen on Sega hardware that he's signed a £100 million deal with the Japanese to sell its consoles here in the UK.

Branson zipped over to Japan a couple of weeks ago on the inaugural London to Tokyo Virgin Airlines flight to tie up the deal. And once there he couldn't resist a ride on Sega's tricky prototype driving coin-op.

From now until 1994 Virgin will be pushing the Sega furiously in an attempt to woo thousands of potential consoleers. It also means that the firm will be handling Sega's exciting Megadrive 16-bit system (Express 4).

Much of the trade is gearing up for a console explosion over the next few years. It is widely believed that millions of Europeans hitherto uninterested in gaming will see the light.

Branson himself enjoys the odd zapping session at his luxury home on a Sega console.

More Sega news on page 5.



• Driving force: Branson consoles himself

ATARI SHOCKS WITH TINY GAMES MICRO

From Joe Espazito in Chicago

Atari stunned the gaming world at the Chicago CES this week with the announcement of a surprise new handheld games machine.

As first suggested in *Express* (Amiga Blit) the tiny new computer was designed by the same people who put Commodore's Amiga together. However, it is understood that no Amiga technology is being used.

Atari's Portable Colour Entertainment System is billed as the first such machine in the world. Previous handheld efforts have always been in black and white.

It boasts a palette of 4,096 colours on a screen measuring 3.5 inches diagonally. The whole machine weighs about one pound and is the size of a video cassette.

Originally the machine was developed by games company Epyx. However,

Atari has stepped in and bought up the rights to the machine possibly as a result of Epyx's financial troubles at the beginning of this year. For the moment Epyx has exclusive rights to produce any software.

The machine I saw was previewed to a select number of journalists and industry top brass. Atari boss Sam Tramiel was clearly very proud with his offering. In a direct dig at Nintendo he said: "We haven't been sitting back and letting profits go off shore to manufacturers who are totally unrealistic about offering consumers value. It wouldn't have done any good if we had offered a simple slow flat and grey screen."

Designers Dave Needles and RJ Michaels were in evidence. It looks as though these two have been working hard to get their baby together on time.



• Tramiel: Proud with tiny gadget

The Atari Portable Colour Entertainment System runs at 16 Mhz (claimed to four times faster than any "rivals"). It can handle 16Mb cards and runs on six AA batteries. It can also be run from a mains socket or cigar lighter socket.

Epyx currently has five games ready. They are *California Games*, *Blue Lightning*, *Impossible Mission*, *Monster Demolition*, *Time Quest* and *Gates of Zendocon*. Four more games are

promised for autumn. In the meantime both Epyx and Atari are talking to third party software publishers for licensing deals. The software looks like a credit card and slots into the machine.

It should arrive here in the UK early next year although plans are afoot to sell it through Schipol Airport Duty Free in Amsterdam - a traditional venue for whizzo new electronic gadgets.

No UK price has been fixed as yet although it should sell here in the US for \$150. Whilst that's a good deal more expensive than the Gameboy this is a far better machine.

There can be little doubt that this machine has impressed those of us who descended on Chicago. The picture quality is very nice and doesn't leave you rubbing your eyes. And four channel stereo sound is an added bonus.

We'll be showing pictures of Atari's tiny computer next week.■

CONTENTS

FEATURES

GOOD HEALTH 15
How dangerous is your micro?

OOPS... 20
Could this program revolutionise programming?

READER SURVEY 24
Tell us what you think and win £100!

A to Z PART 8 25
J is for Jobs, K is for Katakis

HARD DISKS 27
...made easy

PHOTON PAINT 2 28
The best yet?

BASIC 31
The best guides to get you off the ground

REGULARS

COMMENT 4

LETTERS 11

EXPRESS SALES 41
Pick up some great bargains here

JOBS 42
The best in computer vacancies

TECH TIPS 43, 44

READERS' CLASSIFIED 46

PREVIEWS 47
Indiana Jones and the Last Crusade, *Licence to Kill*, *Bloodwych*, *Loom*, *Xybot*

GAMES 48, 50
Millenium 2.2, *Navy Moves*, *Rampage*, *Chuck Yeager's Advanced Flight Trainer*

UPDATES 50
Star Trek, *Shadowgate*, *Crazy Cars II*, *Flying Shark*

VOUCHERS 51, 52
Buy *Express* for 58p and save £10!

BACK PAGE 54

YOUR MACHINE

Amiga 32
ST 33
PC 34
CPC 35
Spectrum 36
Commodore 64 37
PCW, QL 38
BBC, MSX 39
Archimedes
NEW COLUMN! 41

NINTENDO'S REPLY

Also at the CES was Nintendo's new handheld machine, Gameboy.

It's somewhat smaller than the Atari machine and offers only a 2.5" black and white LCD screen. *Express* tinkered with the machine for a while - picture quality was passable although not brilliant. The stereo sound is remarkably good. US price will be about \$89 - less in the big stores.

Like the Atari machine Gameboy runs thin credit card like cartridges. It also has a comms link enabling two separate machines to be linked for a two player battle.

Nintendo was running a combo game incorporating the *Mario Brothers* releases. The game is called *Super Mario Land*. As always with Nintendo, UK availability is uncertain.■



• Nintendo: Can Gameboy clean up like this baby?

An electronic heaven

CES Report from Chicago, Illinois

The Consumer Electronics Show has once again proved itself to be a pleasuredome for thousands of people milling and poking around.

The sheer size made one commentator here liken it to "a small Latin American country". Exhibitors are up something like 15 per cent.

One strange new strain of gadgets are attracting a good deal of attention. Toshiba, Sony and Canon are showing off Still Picture Systems. These allow you to take a photograph and run the results straight through a computer. The film is held on a 2 inch disk. Sony's Mavica system costs \$599 with an extra \$299 for the computer interface.

More mainstream products are in abundance. Mindscape is showing preliminary pictures of *Star Trek* based on the movie. Cinemaware and DataEast are both

concentrating heavily on sports such as basketball American Football.

VistaVision is attracting lots of visitors with an interface box for video recorders. It's an upgraded theme on interactive video games. Instead of looking at bits of paper every time you stop the "game" movable graphics pop up giving all the options.

As always Infocom is in evidence. It's talking about a new graphics adventure based on the legend of King Arthur. And the Bards Tale people Interplay are getting an epic together called *Dragons World*.

Also being played a hell of a lot is a two way coin-op machine which pits two people against each other in different machines.

For computer enthusiasts and gadget freaks this whole jamboree is something approaching heaven itself.■



COMMENT

Healthy and wealthy and wise?

Smokers who used to insist that their Uncle Fred smoked 90 a day and lived to be 110 are thinner on the ground these days. The certain health hazards are at least acknowledged, if not avoided.

Ditto seat belts. The infringement of civil liberties brigade (whose same Uncle Fred survived a 130 vehicle pile up without one) is silent now as it's been shown that they actually do save lives.

Will the same thing happen with VDUs? Radiation from the VDU, uncomfortable workstations and stress from computer-oriented work affecting us, from the home gamer to the copy typist. Effects are negligible in most cases, but we must still be aware of them.

There are no laws at all concerning any of these points in Britain, though the European Commission is pushing the EEC countries to do so by 1991 and some laws have already been passed in parts of the US. These restrict the hours that can be spent working at a VDU, but ignore the radiation hazard. This is still subject to argument over how to interpret the statistics of miscarriage 'clusters' in VDU workplaces.

And eye damage, RSI, stress... the list goes on. Meanwhile those of us who work all day at VDUs - especially those of us planning families - can only lobby our MPs, write letters, and worry, because it doesn't look like legislation is on the way yet.

Perhaps, as in the recent child leukaemia cases at Sellafield (where a cluster of cases occurred near the site of the nuclear reactor) it will take litigation to bring the matter to a head. It is surely only a matter of time before a woman who has miscarried takes legal action against her employer who refused to transfer her to non-VDU work during her pregnancy. And when that happens, the only winners will be the lawyers.

EDITOR.....Rob Ainsley
NEWS EDITOR.....Colin Campbell
FEATURES EDITOR.....Andy Storer
REVIEWS EDITOR.....Rik Haynes
TECHNICAL EDITOR.....Jerry Glenwright
ART EDITOR.....Angela Neal
ART ASSISTANT.....Harriet Athay
PRODUCTION EDITOR.....Rod Lawton
ADVERTISEMENT MANAGER.....Mark Salmon
AD EXECUTIVES.....Sarah King
.....Julie Hodgkins, David Lilley
AD TYPESETTING.....Terry Turner
PUBLISHER.....Greg Ingham

© Future Publishing Ltd 4 QUEEN ST, BATH, BA1 1EJ
TEL: 0225 446034 • FAX: 0225 446019
Printed by Redwood Web Offset, Trowbridge, Wilts
Distributed by Comag, West Drayton, Middx

HARD AND FAST

With its fifth anniversary celebrations just behind it FAST has embarked on a tough new campaign to curb software piracy.

The Federation Against Software Theft is to advertise its education and business users as well as home users in an attempt

to warn people off copying software.

And in a two pronged attack FAST is also to ask the Government to lay down guidelines which will prod the police and Crown to take piracy more seriously. FAST says some police authorities are reluctant to get involved

despite the huge amounts of money often involved. Policy guidelines are presently muddled.

It also wants trading standards officers to be given the authority to investigate software crime.

"We're calling on the Government to recognise that software theft represents a significant and growing crime. Appropriate training and resources should be made available to ensure that the public can call upon public enforcement and prosecution services for assistance in all serious instances of criminal activities," says the tough talking body.

FAST's long battle to tighten up piracy laws is succeeding with the Copyrights, Designs and

HACKATTACKER

A new device to help combat computer hackers has been launched by Cream Communications.

Com-Lock operates as a gate between the computer's modem and the telephone line. Any hackers trying to crack codes and therefore enter a system have to get past the gadget.

Anti-hacking systems usually rely on an access code which must be deduced by crafty code crackers. This involves a high tech game of trial and error whereby the hacker will spend hours trying to solve the puzzle.

Com-Lock is claimed to block this route. It will cut off any caller who fails to get the

right code straight away and any subsequent attempts will be monitored. After ten incorrect attempts the system enters a blocking mode which cuts off even correct entries for thirty minutes.

Any hacker won't know he's being refused access - it keeps electronic burglars interested by giving the impression that they're going undetected. The gadget sounds the alarm giving police and telephone authorities time to trace the call.

Cream reckons Com-Lock will "revolutionise the field of computer protection" and says that £950 "is a small price to pay for data protection and peace of mind".



• Lock awe: Pouring cold water on the plans of the hackers

Phew what a PC scorcher

Thousands of pounds worth of Sanyo PCs have been burned in a major fire at the firm's warehouse in Warrington.

Although no one was hurt, a hundred firemen were drafted in to combat the blaze which claimed tons of electronic jiggery. Initial reports suggest that arson is not involved although police have not ruled this out

Gutted Sanyo expects some disruption to its normally smooth operations although it is already planning a new 35,000 square feet warehouse.



This is Bruce Gordon - the extremely clever chap who has spent the last few years designing MGT's SAM Coupé micro.

And with the much publicised machine only a few short months away from launch he's decided to set up a 24 hour hotline to satisfy all your enquiries about the beast. Gordon's recorded message will be updated every week with the latest in developments. The SAM hotline is 0792 791275.



I'm in big trouble with my company.

FAST

• FAST work: One of the new anti-piracy messages

Patents Act being brought into force at the beginning of August. This effectively means increased penalties for offenders and popular bit copying devices being made illegal.

FAST's publicity campaign will run through highbrow publications such as the Financial Times and The Economist in order to make businessmen aware of piracy. It is also being aimed at industry employees through brochures and low end users through the popular press, radio and even television.

Education is being singled out as a problem area with hard hitting leaflets being distributed to authorities and schools throughout the country.

FAST says: "Software copyright is not respected. Direct enforcement can be used against those who trade in illegal copies of software but extra copies are often made by 'innocent' users."

Meantime, FAST has appointed a second enforcement officer to join veteran campaigner Bob Hay. Robin Lawrence, 29, has previously worked alongside FAST as a trading standards officer.

PCW owners promised cheap hard disk

A low cost hard disk for the Amstrad PCW is being developed by Isenstein.

Costing a respectable £299 the 20Mb monster should be available later in the year. Most hard disks for Amstrad's word processing favourite cost at least £400.

The disk is likely to be called simply The PCW Hard Drive.

"There have been hard drives around for the PCW for some time but we felt it would be a good idea to do something really affordable," said



• Hard bargain: 20Mb drive for the PCW

Isenstein boss Dave Rathbone.

So far developers have only managed to come up with a prototype. Other Isenstein projects have put production back a few months.

CONSOLEMANIA?

Industry pundits are to be believed this Christmas will see an amazing explosion in the popularity of games consoles.

Big gun Virgin/Mastertronic is so convinced of this that it is predicting 200,000 owners of the Sega console (which it sells) in Britain by the end of this year - that's twice the current figure.

Philip Ley, the man in charge of the Sega, told Express: "That figure will be easy to attain. I'm sure we'll see thousands upon thousands of people who've never bothered with computer games playing consoles this Christmas."

"We're also going to see a lot more games being made available. I've got five new titles coming over in the next



• Laying it on thick: Console explosion predicted

month and five more after that."

The Sega console costs £79.95 for the basic pack and £129.95 for the Super System. Sega's impressive 16-bit Megadrive will be here early next year.

TOP 20 Full Price GAMES

- 1 Robocop** OCEAN
Spectrum, C64, CPC, ST, Amiga, PC, MSX
- 2 Microprose Soccer** MICROPROSE
Spectrum, C64, CPC, ST
- 3 Dragon Ninja** OCEAN
Spectrum, C64, ST
- 4 Populous** ELECTRONIC ARTS
ST, Amiga
- 5 Emlyn Hughes** AUDIOGENIC
Spectrum, C64, CPC
- 6 Operation Wolf** OCEAN
Spectrum, C64, CPC, ST, Amiga
- 7 Arcade Muscle** US GOLD
Spectrum, C64, CPC
- 8 Barbarian 2** PALACE
Spectrum, C64, CPC, ST
- 9 In Crowd** OCEAN
Spec, C64, CPC
- 10 Run the Gauntlet** OCEAN
Spectrum, C64, CPC, ST, Amiga
- 11 Middle Earth** MELBOURNE HOUSE
Spec, C64, CPC, ST, Amiga, PC
- 12 WEC Le Mans** MAGNÉ
Spectrum, C64, CPC, ST, Amiga
- 13 Crazy Cars II** TITUS
Spectrum, CPC, ST, Amiga
- 14 Fun School 2** DATABASE/MANDARIN
Spectrum, C64, CPC, ST, Amiga, BBC
- 15 Football Manager 2** ADDICTIVE
Spectrum, CPC, ST, Amiga, III
- 16 Afterburner** ACTIVISION
Spectrum, C64, CPC, ST, Amiga
- 17 Running Man** GRAND SLAM
Spectrum, C64, CPC, ST, Amiga
- 18 Renegade 3** MAGNÉ
Spectrum, C64, CPC
- 19 Double Dragon** MELBOURNE HOUSE
Spectrum, C64, ST, Amiga, PC
- 20 Giants** US GOLD
Spectrum, C64, CPC

TOP TEN Budget GAMES

- 1 Bomb Jack 2** ENCORE
Spec, C64, CPC, C16
- 2 Treasure Island** CODE MASTERS
Spec, C64, CPC
- 3 Ghostbusters** MASTERTRONIC
Spec, C64, CPC
- 4 Turbo Esprit** ENCORE
Spec, C64, CPC
- 5 1942** ENCORE
Spectrum, C64, CPC
- 6 SAS Combat** CODE MASTERS
Spectrum, C64, CPC
- 7 Subway Vigilante** PLAYERS
Spectrum, C64, CPC
- 8 Road Runner** KIX
Spectrum, C64, CPC
- 9 Fast Food** CODE MASTERS
Spectrum, CPC
- 10 720** KIX
Spec, C64, CPC

RE re-entry • NE new entry • Last week's positions
Compiled by Gallup
The charts shown are based on the Open Market, that is retailers who stock a broad range of products. All charts shown are copyright of Gallup.

ROBOCOP BLASTS CHART RECORD

Ocean's extraordinary game Robocop has smashed the record for longest consecutive weeks at number one.

Robocop has been sitting pretty at the top of the charts since it became the surprise Christmas number one. That's a total of eighteen weeks.

Previous record holder was Soft Aid which lasted 17 weeks. However, that was a charity compilation costing only £5.99. Out Run sold brilliantly but only lasted eight consecutive weeks on top of the pile.

Ocean scooped up the rights to the film tie up when it was only at script stage. At that time nobody



• The future law enforcement: Ocean cops chart record

knew if the story of a half man, half machine cop would catch on.

"It was all uncertain. The film could have been a cheap and tacky affair. I'm sure we didn't think it

would be so successful at the time," said Ocean's Gary Bracey when Express broke the news to him.

Whilst the big name tie up elevated the game straight to the top its gameplay has also been commended. It received warm reviews throughout the press and has since been turned into a successful coin-op machine.

Ocean doesn't think it will be the biggest selling game of all time, however, as game titles sold more two years ago than they do now.

Meanwhile, Amiga owners will be pleased to learn that their version is coming out in a couple of weeks.

Snippets

> A video digitiser for the Amiga has been launched by Power Computing. Called Video-On it costs £199. Potential users will be interested to learn that, unlike many digitisers, it doesn't require the use of a camera filter.

> Populous - EA's game which gives you divine rights - is currently being converted to the PC. God's gift to gaming should arrive in the autumn.

> And talking of games conversions, Anco's extremely fast overhead soccer frenzy Kick Off is to be made available to C64 owners within the next few weeks. An Amiga version has just been launched.

> An adventure game for young mathematics students is now available for the Beeb. Kids who hate boring old maths might find the adventures of Puff the Dragon a better way of learning fractions. It costs £20.

> PC owning businessmen (of which there are quite a few) might be interested in Fassett. It's a way of controlling all your fixed assets and costs £99. More on 01 455 2117.

JUMBO SPECCY GAMES SALE

Britain's biggest collection of Spectrum games is going up for sale in aid of charity.

Five year old fanzine The Bug has decided to sell off its treasured collection following its decision to stop publishing. The lads who ran The Bug are offering its extensive catalogue of games to anyone interested.

However, they hope some buyer will step in and buy the archived collection as a job lot. "We've got thousands of programs and it's going to be a bit sad to see them go, but it is for a good cause," said The Bug's Jeffrey Davy. Unlike most professional magazines The Bug has kept its collection in good order through the years.

Also up for grabs is a large collection of C64 games as well as "bits and bobs" from most other machines.

Anyone who wants a catalogue should apply to The Bug, 28 Leaside Avenue, Muswell Hill, London, N10 3BU enclosing a sae. Proceeds will go to various charities including housing organisation Shelter.

COMPUTERS "DISRUPTIVE"

The transformation to computers hasn't been so happy for the Liverpool passport office. Since it installed a computer system last December production has fallen from 90 applicants a day for each examiner to about 55.

Whereas the system used to rely on simple handwritten details all info has to now be fed into the computers. This, according to employees, is most time consuming. Such is the extent of the problem that a backlog of 200,000 applicants has built up.

"The computer has a memory bank to cope with a turnover of four weeks. But such is the backlog that it needs to be updated all the time. It's really slow," said one of the passport officers. More than 100 of the workers were last week on strike as a result of the pressures. ■

A talking version of Arnor's word processing pack Protext ■ to be launched for the Amiga.

The package has been put together for the visually handicapped. It will speak each letter as it's typed or each word using the Amiga's voice synthesizer. No price as yet. ■

Simulation giant MicroProse is working on F15 Strike Eagle 2. First impressions are that graphics and gameplay are even better. Meantime Gunship is due soon on the Amiga. ■

GUARDIAN DTP STRIKE

AVERTED

Computer technology marches on but jobs saved

Editorial staff on *The Guardian* came within forty minutes of industrial action last week over the introduction of new computer technology to the paper's Farringdon offices.

The paper is to become the first in "Fleet Street" to completely succumb to desktop publishing technology and to introduce full page on screen make up. Relatively new dailies *The Independent* and *Today* were both set up using DTP technology but *The Guardian* is the first to make the transformation from traditional old methods to new.

National Union of Journalists members were worried that their new efficient office would mean compulsory redundancies for fellow workers - a situation which has occurred many times in the past. They also asked for extra payments to cover the training and general chaos new technology often results in.

With the threat of a one day strike hanging over them, management and leading union members embarked on twenty hours of negotiation.

With forty minutes to go until the deadline, management agreed to



• Making the news: The Guardian's ■ tech problems resolved

much of the NUJ's terms, promising no compulsive redundancies and an average increase in pay of 8.8 per cent. Sub editors (who will be most affected by the change) will be paid more than reporters who won't be so much affected.

The *Guardian* currently uses an ATEX newspaper publishing system as well as hundreds of Tandy PCs and portables.

It ■ thought likely that Apple machines will be brought in to handle new DTP requirements. ■

NEEDFORWARD LTD

Tel: 0242 227746/227745

Shareware...Maintenance/Repair...Programming...Technical Writing...Hardware...
...Software...Components...Office Supplies/Furniture...

Most P.C. Compatibles, Spectrum Range, PCW, Opus, Commodore.
Enquiries regarding any computers other than those shown above please ring for quote.
Please enquire about our Maintenance Contracts

**NEVER BEFORE HAS THERE BEEN SUCH AN IDEAL MOMENT
TO SUB-CONTRACT YOUR WORK OUT
BUT THEN AGAIN
WE HAVEN'T ALWAYS BEEN AROUND
WE ARE SO GOOD AT BRINGING OTHERS' NEEDS FORWARD
THAT WE NAMED THE COMPANY
NEEDFORWARD LTD**

REPAIR PRICE LIST

All equipment accepted for repair will be charged at £17.00 per hour plus parts

QUANTITY REPAIR

A batch of faulty equipment, if the quantity is greater than or equal to 50, can be quoted for on piece-work.
Examples of Prices for Piece-Work:

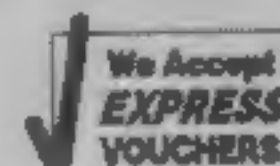
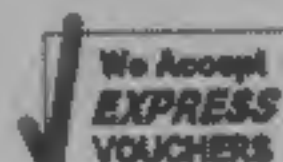
| Qty | Description | Components Provided: | | Price per Unit £ |
|------|-------------------------|----------------------|------------------|----------------------------------|
| | | Provided (1) | Not Provided (0) | |
| 50 | PC 1512 DD-CM | 1 | 0 | 25.00 30.00 plus parts |
| 2000 | Tele-answering machines | 1 | 0 | 11.00 to 14.00 16.00 to 19.00 |

Note... On call 24 hr per day from Monday to Friday

FULL ANTI-STATIC PRECAUTIONS ARE TAKEN ON ALL WORK INVOLVED WITH THE DISASSEMBLY, ASSEMBLY, REPAIR TO COMPONENT, BOARD, OR SYSTEM LEVEL OF ELECTRONIC EQUIPMENT MAINTAINED BY NEEDFORWARD

All Cheques/P.O.'s made payable to:

NEEDFORWARD LTD (Dept CE)
52 Pennsylvania Avenue,
HestersWay, Cheltenham. GL51 7JP
Please add £1.50 p&p to all orders



520ST-FM SUPER PACK



The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with 1Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200). Free Of Charge. Return the coupon for details.

£399

INCLUDING VAT

With SM124 mono monitor: £498 INC VAT

With SC1224 colour monitor: £698 INC VAT

1Mb DISK DRIVE £450 OF SOFTWARE

ARCADE GAMES

| | | |
|-----------------------|--------------------|--------|
| Arkanoid II | Imagine | £19.95 |
| Beyond The Ice Palace | Elite | £19.95 |
| Black Lamp | Firebird | £19.95 |
| Buggy Boy | Elite | £19.95 |
| Chopper X | Mastertronic | £9.99 |
| Ikari Warriors | Elite | £14.95 |
| Marble Madness | Electronic Arts | £24.95 |
| Quadrathlon | Logotron | £19.95 |
| Ranarama | Hewson Consultants | £19.95 |
| Return To Genesis | Firebird | £19.95 |
| Roadways | Melbourne House | £19.95 |
| Starquake | Mandarin | £19.95 |
| Test Drive | Electronic Arts | £24.95 |
| Thrust | Firebird | £9.95 |
| Thundercats | Elite | £19.95 |
| Wizard | Ocean | £19.95 |
| Xenon | Melbourne House | £19.95 |
| Zynaps | Hewson Consultants | £19.99 |

SPORTS SIMULATIONS

| | | |
|-------------------------|----------|--------|
| Eddie Edwards Super Ski | Elite | £19.95 |
| Seconds Out | Tynesoft | £19.95 |
| Summer Olympiad '88 | Tynesoft | £19.95 |

PRODUCTIVITY SOFTWARE

| | | |
|-----------|---------------------|--------|
| Organiser | Triangle Publishing | £49.95 |
|-----------|---------------------|--------|

JOYSTICK

| | | |
|---------------------|------------|-------|
| Atari CX40 Joystick | Atari Corp | £4.99 |
|---------------------|------------|-------|

FREE ATARI BUNDLE VALUE: £458.97



ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press. E&OE

520ST-FM EXPLORER PACK WITH BUILT-IN 1Mb DISK DRIVE



The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

£260

ONLY £2.51 PER WEEK
RETURN COUPON FOR DETAILS
+VAT= £299

+ SM124 mono monitor: £398 INC VAT

+ SC1224 colour monitor: £598 INC VAT

1040ST-FM PROFESSIONAL PACK

NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for further information.

£499

INCLUDING VAT

With SM124 mono monitor: £598 INC VAT

With SC1224 colour monitor: £798 INC VAT



| | | |
|---------------------|------------------|---------|
| ATARI 1040ST-FM | (Computer) | £499.99 |
| VIP PROFESSIONAL | (Spreadsheet) | £149.95 |
| MICROSOFT WRITE | (Word Processor) | £149.95 |
| SUPERBASE PERSONAL | (Database) | £59.95 |
| BASIC DISK & MANUAL | (Language) | £24.98 |

NORMAL RRP: £884.82

LESS DISCOUNT: -£385.82

PROFESSIONAL PACK PRICE: £499.00

2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as a lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

2Mb MEGA ST

£899 INC VAT

+ mono monitor = £998

+ colour monitor = £1198

4Mb MEGA ST

£1199 INC VAT

+ mono monitor = £1298

+ colour monitor = £1498



DTP PageStream £149 +VAT =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Silica SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

- TEXT-FLOW AROUND GRAPHICS
- ROTATION OF TEXT & GRAPHICS
- SLANT OR TWIST ANY OBJECT
- POSTSCRIPT COMPATIBLE
- TAG FUNCTION
- AUTO/MANUAL KERNING & HYPHENATION
- GROUPING OF OBJECTS

DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

SILICA SHOP:

SIDCUP (& Mail Order) 01-309 1111

1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

OPEN: MON-SAT 9am - 5.30pm LATE NIGHT: FRIDAY 9am - 7pm

LONDON 01-580 4000

52 Tottenham Court Road, London, W1P 0BA

OPEN: MON-SAT 9.30am - 6.00pm LATE NIGHT: NONE

LONDON 01-629 1234 ext 3914

Selfridges (1st floor), Oxford Street, London, W1A 1AB

OPEN: MON-SAT 9am - 6.00pm LATE NIGHT: THURSDAY 9am - 8pm

To: Silica Shop Ltd, Dept NCE 05 89, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
PLEASE SEND FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode: Dept NCE 05 89

Do you already own a computer
If so, which one do you own?

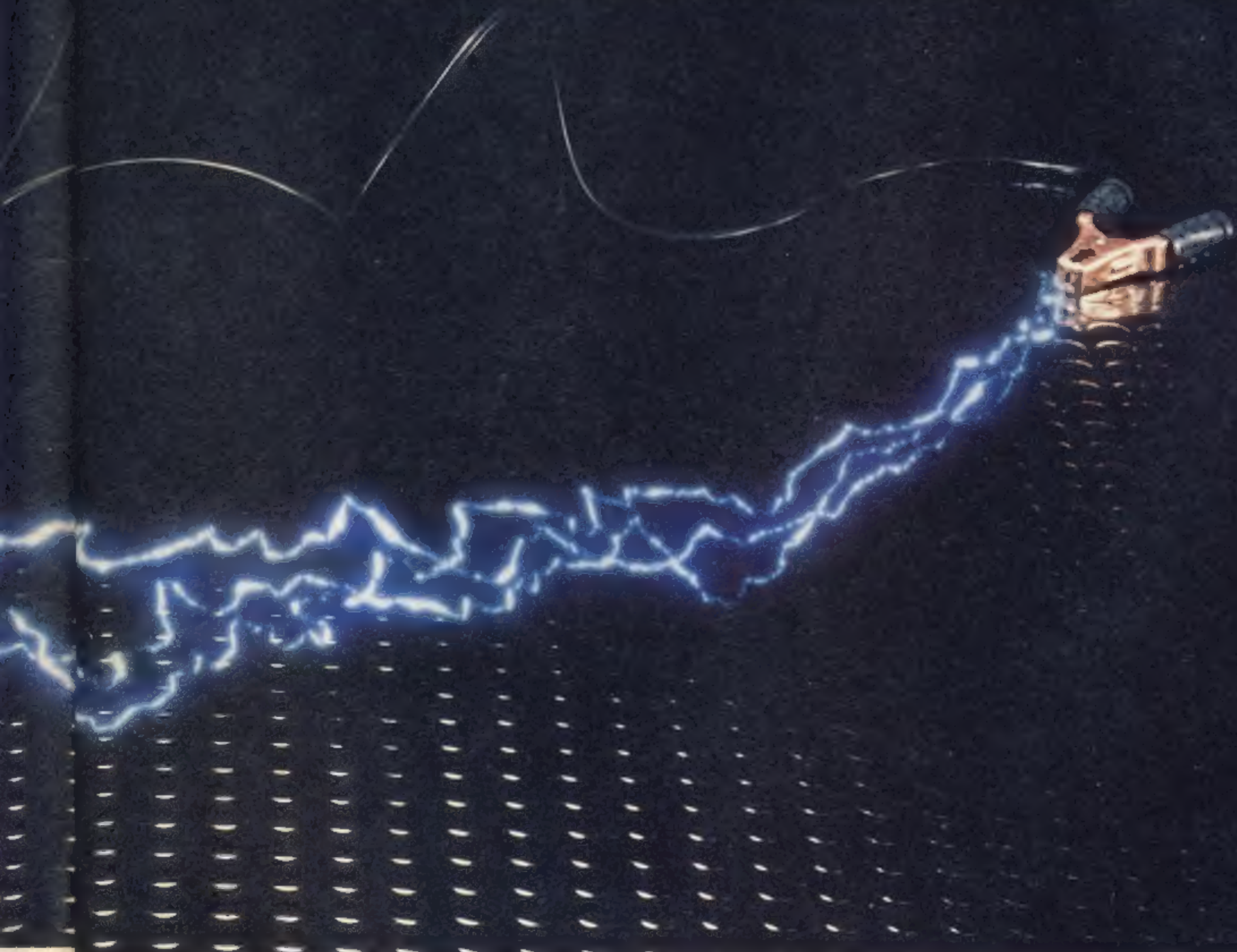
DTP ☐



There's no catch. We're giving you the Atari 520 STFM and £500 worth of great software titles for just £399.99.

The twenty-three superb titles include some of the greatest games and three excellent programs which introduce you to the BASIC programming language, computer-created music and the more

**The Atari Power Pack.
With £500 worth of software for starters.**



popular computer applications such as word processing and spreadsheets.

So take advantage of this great offer now. And be a bright spark.

For further information, just fill in the coupon.

Please send me details of this and other Atari products.

Name: _____

Address: _____

Phone No: _____

CE 1

ATARI POWER PACK

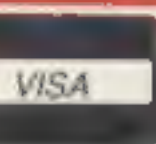
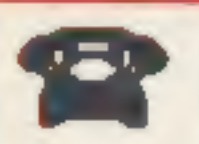
ATARI 520STFM POWER PACK £309

| | |
|-------------------------------------|---------|
| Atari 520STFM Super Pack..... | £269.00 |
| Atari 520STFM Explorer Pack..... | £234.00 |
| Atari 1040STFM..... | £389.00 |
| SM124 Mono Monitor (with ST)..... | £89.00 |
| SC1224 Colour Monitor..... | £249.00 |
| Phillips CM8833 Monitor + Lead..... | £199.00 |

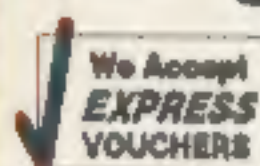
PRINTERS

| | |
|--------------------------------|---------|
| Star LC10 Printer..... | £169.00 |
| Star LC24-10 Printer..... | £269.00 |
| Star LC10 Colour Printer..... | £214.00 |
| Panasonic KXP1124 Printer..... | £269.00 |
| Panasonic KXP1081 Printer..... | £139.00 |
| Epson LQ500 Printer..... | £269.00 |
| Epson LX800 Printer..... | £169.00 |

* All printers come with a free lead*



01-650 9152



Telephone for prices on other equipment

Delivery Charge: Computers-

£10.00, All others - £6.00 +15% VAT to all orders



**To: VMS Enterprises Ltd,
Unit 1, Bouverie Lodge,
4 Rectory Road, Beckenham, Kent BR3 1TU**

Personal Callers by appointment only.



Tonic Audio,
DEPT ST/AM 7,
4 PARK TERRACE,
TREForest,
PONTYPRIDD,
MID GLAMORGAN,
CF37 1TG.
TEL: 0443 485432

Available for your orders and enquiries up to 9pm EVERY day of the week. Mail order only. Visits/demos by appointment. Official/educational orders welcome.

MIDI MIDI MIDI MIDI MIDI MIDI MIDI

If you need a sequencer, scorewriter/notator or synth editor - we've got a huge range to choose from - with before & after sales advice/help - GIVE US A RING/WRITE. Don't know how to start a MIDI system? GIVE US A RING/WRITE.

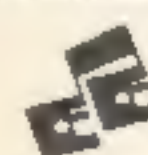
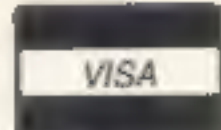
PAGESTREAM

This advert was produced using it - phone for advice and demo disks.

Atari ST - Commodore Amiga - Printers etc - phone for prices

Steinberg Pro 24 - £250
C-Lab Creator/Notator - POA
Oberheim Matrix 1000 - POA
Hybrid Arts EZ Track Plus - £49.95
Cheetah mega MS6 synth module - £265
Cheetah MK5V - £245
Cheetah MK7VA - £355
Cheetah DP5 - £165
Passport Mastertracks Jr./ST - £88
Passport Mastertracks Pro - £260
Atari 1040 + Steinberg Pro12 - £489
As above plus mono monitor - £589
Atari Megafile 60 hard disk - £629
While stocks last - Amiga 500 RAM upgrade boards - £95 complete.

There's much much more folks - write or phone for our comprehensive price lists. Demo disks available - £3 each. All prices VAT/P&P inclusive. Twelve months guarantee on products. All goods subject to availability. Please allow 21 days delivery - we usually deliver sooner. Overnight delivery on hardware - please add £7.50. Cheques/PO's payable to Tonic Audio.



Intelligent Music

PASSPORT



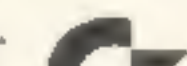
ALESIS

Steinberg

JEOPARD ELECTRONICS

Cheetah

ATARI



Hybrid Arts

Parrot Philip Rees

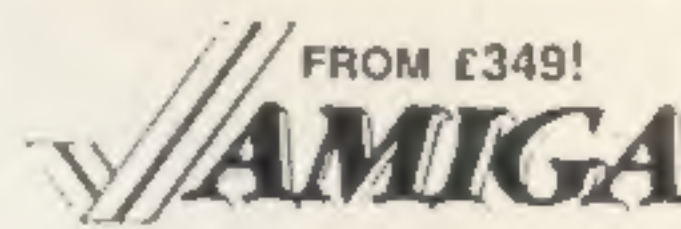
Panasonic

Oberheim

Commodore

E&OE

commodore



FROM £349!
Prices include 15% VAT, FREE delivery to your door, and 1 year manufacturer's warranty. Add £15 for overnight delivery. All systems are tested before despatch. On-site maintenance option available.

| | |
|---|-------|
| Amiga A500 complete, now only | £349 |
| Amiga A500 with 1930M high-res mono monitor | £429 |
| Amiga A500 with A1084S hi-res stereo colour monitor | £585 |
| Amiga B2000 with 1.3 Roms and WorkBench 1.3 Software | £895 |
| Amiga B2000 As above, plus A1084S stereo colour monitor | £1125 |
| Amiga B2000 As above, plus XT bridge board + 20MB hard disk | £1595 |



| | |
|-----------------------------------|-------|
| A2621 Unix Card | Phone |
| A2620 68020 Accelerator Card | £1395 |
| A2050 8MB Card, 2MB installed | £595 |
| A2286 PC-AT board & 5 1/4" drive | £895 |
| A2088 PC-XT board & 5 1/4" drive | £349 |
| NEC 3 1/2" internal drive (A2000) | £79 |
| A2092PC 20MB MS-DOS hd disk | £239 |
| A2092A 20MB AmigaDos hd disk | £395 |
| A2092PC 30MB MS-DOS hd disk | £399 |
| A2094A 20MB/40MB autoboot | Phone |
| SciCom 40MB removable lid disk | £995 |
| Supra Modem 300-2400 bps | £189 |

| | |
|-------------------------------------|-------|
| 3 1/2" d/s d/d diskettes per 10 | £10 |
| Trackball Marconi RB2 | £59 |
| A501 plug-in RAM/clock 512K | £125 |
| NEC 3 1/2" twin-port slimline drive | £89 |
| A1010 3 1/2" external disk drive | £99 |
| Cumana 5 1/4" external drive + PSU | £145 |
| A590 20MB hd disk 2MB RAM OK | £395 |
| Vortex 40MB autoboot hard disk | £549 |
| A1084S stereo colour monitor | £239 |
| Quadram Multiscan 14" Monitor | £425 |
| NEC Multisync II 14" Monitor | £525 |
| Flicker Fixer Multiscan Adaptor | £375 |
| MPS 1230 120 cps craft, 30 NLQ | £149 |
| Star LC10C colour 120 cps, NLQ | £259 |
| HP DeskJet 300 dpi inkjet, B/W | £675 |
| HP PaintJet colour inkjet 180 dpi | £889 |
| Xerox 4020 colour inkjet 240 dpi | £1075 |

Why not enjoy the free Teletext databases with the MicroText Teletext adaptor... Fully programmable, with Fastext facility, instant access to last 16 pages, double page view, telesoftware loader, auto-start/background operation... Pages can spoken, printed as ASCII or graphics, saved as ASCII or DIF files... With digital tuning for crystal clear colour TV/sound reception on any A1081/1084/CM8833 monitor! Uses Parallel port with throughput for printer. Available from stock for only £139!



| | | |
|------------------------|---|--------|
| SuperBase Personal | Relational database power, without programming! | 39.95 |
| SuperBase Personal 2 | As above, plus text, mail merge, batch entry etc. | 62.95 |
| Professional v3 | With Forms Editor and DML programming language | 154.95 |
| SuperPlan | Pro Spreadsheet with business graphics, time planner | 67.95 |
| Acquisition v1.3 | Relational database with programming language | 139.95 |
| KindWords v2 | Graphics & text, high-res multiple fonts, spellier | 44.95 |
| ProText v4 | New fast WP with English dictionary | 79.95 |
| VistaWrite Desktop v2 | High performance desktop WP, now with HQ fonts | 69.95 |
| Works Platinum Edition | Integrated Wordpro/Database/Spreadsheet/Comms | 159.95 |
| Publisher's Choice | Kindwords 2 + PageSetter 2 + LaserScript + Fonts + clip art | 89.95 |
| Businessware Accts 1 | Invoicing, Sales Ledger, Stock Control, by Pinnhead | 129.95 |
| Professional Page v1.2 | Includes WP, Desktop, colour separations, CAD | 174.95 |
| Businessware Accts 2 | General Ledger, Purchase Ledger, by Pinnhead | 129.95 |
| Personal Tax Planner | UK Income Tax computation program, from Digita | 39.95 |
| DGCalc | All the spreadsheet essentials, easy to use | 24.95 |
| A/C Fortran | Mainframe quality ANSI 77 Fortran by AIssoft | 179.95 |
| A/C Basic v1.3 | By AIssoft. Compiles Amiga Basic... FAST! | 124.95 |
| Dos-2-Dos | Reads & writes MS-DOS on 5 1/4" & 3 1/2" Amiga drives | 34.95 |

| | |
|-------------------------|--------|
| Workbench v1.3 Enhancer | £15.95 |
| C64 Emulator v2 | 39.95 |
| BBC Emulator v1.2 | 44.95 |
| PC Emulator v1.1 | 24.95 |
| Lattice C v5 | 159.95 |
| The Works | 69.95 |



BOOKS

| | |
|------------------------------|--------|
| Amiga Basic Inside & Out | £18.95 |
| AmigaDos Inside & Out | 18.95 |
| Amiga Tricks & Tips | 14.95 |
| Amiga C for Beginners | 18.95 |
| System Programmer's Guide | 32.95 |
| Amiga 3D Graphic Programming | 18.95 |

| | |
|------------------------------|--------|
| Amiga Basic Inside & Out | £18.95 |
| AmigaDos Inside & Out | 18.95 |
| Amiga Tricks & Tips | 14.95 |
| Amiga C for Beginners | 18.95 |
| System Programmer's Guide | 32.95 |
| Amiga 3D Graphic Programming | 18.95 |



| | | |
|---------------------|---|--------|
| Aegis Sonix v2.0 | Score, edit, synthesise, improvise. Midi compatible | 39.95 |
| De Luxe Productions | Delinative high-res graphics animation package | 129.95 |
| De Luxe PhotoLab | Print & manipulate photo quality images | 59.95 |
| Sculpt-Animate 4D | 3D graphics and animation for the professional user | 319.95 |
| Pro-Video PAL Plus | Professional video titler with fonts, extra fonts available | 169.95 |
| Professional Draw | The ultimate drawing tool. Uses vectored graphics | 129.95 |
| Aegle Draw 2000 | Pro CAD pack with autodimension, unlimited zoom etc. | 179.95 |
| X-Cad Designer | Entry-level CAD system | 89.95 |
| X-Cad Professional | Professional CAD system (needs 2MB) | 449.95 |
| SummaSketch Plus | 12x12 Graphics Tablet with last driver software | 425.95 |
| DigiView Gold | Digitises in all resolutions, displays 4096 colours | 120.95 |
| DigiPic | FAST frame grabber & digitiser... only a few left! | 150.95 |
| SuperPic | Real-time colour digitiser/frame grabber & genlock! | 475.95 |
| PAL Rendale Pro | Broadcast quality genlock for the professional user | 625.95 |
| MiniGen | Inexpensive and straightforward PAL genlock | 105.95 |
| Handy Scanner | Cameron Type IV 400 dpi, with OCR & paint software | 295.95 |

| | |
|----------------------------|--------|
| Photon Paint II | £99.95 |
| De Luxe Paint III | 69.95 |
| PageFlipper + F/X | 79.95 |
| Movie Setter | 59.95 |
| Fantavision | 34.95 |
| Photon Video Cell Animator | 89.95 |

IF YOU WANT IT TOMORROW... CALL US TODAY! ON 01-546-7256

Prices are POST FREE & include VAT. Order by phone with your credit card, or send cheque/PO or your credit card number. Official orders welcome. We despatch same day by FIRST CLASS post. Please allow 5 days for delivery of hardware orders. Prices are quoted subject to availability. Ref. A54



VISA



LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 01-546-7256

1 Are you going to do any more New Computer Excess supplements like the one in your April 1st issue? I thought the first one was very good, great laugh and why not.

2 How about a joystick round up, and let's see this year's models.

3 Are the dates for the PC Show ■ Earls Court this year set yet? As far as I know they are the 27th Sep – 1st Oct with the last three days open to the public as usual. Is this definite?

Steven Allan, Edinburgh

1. Yes, possibly for our first birthday issue in November. It depends on when we can get some expenses for another planning meeting ■ Hatchett's, the pub next door to our offices.
2. Coming soon.
3. Yes, those dates are definite. We'll ■ reporting on it of course. Details on 01-486 1951.

If you saw 'Blue Peter' on 15th May then you would have seen the new Archimedes A3000. It was first prize in a competition. It was called the BBC A3000 (sounds familiar?). They had 3 up and running. One was running Zarch, one had the Blue Peter symbol and one had the 'Render Bender' rag tracing program. One of the presenters (the big one) said, "It won't be in the shops for a while" but no price was given.

Tim Jelves, Leicester, Leics

- The Beeb is getting quite keen on promoting their machines, as anyone who saw the long adverts for Beebs and Archies called 'The Software Show' a few weeks ago will testify. How long before Mark, Caron and Yvette show you how ■ make a disk box holder for your BBC Master or a mouse mat for your Archie A3000?

An unattractive tip, sticky problem! A little tip for anyone that will benefit from it.

Before putting on a new label, peel off the protective backing then very carefully stick part of it on your forehead, yes that's right, on your forehead. Twist it and stick it on your forehead again. Repeat

until the label loses most of its sticking power. Here's one I did earlier, you'll get to know how much to do it. If done right the corners won't peel up or anything.

If you think it's a naff idea **■** least give it a go, and it peels off in one go. Peel it slowly. It works for me.

Robert Hudson, Pontefract, West Yorkshire

- Er - yes. If you see anyone in the pub tonight with a label stuck on their forehead which says 'five and a quarter inch large capacity' you'll know what they've been up to.

Is there ever going to be an Amiga Emulator for the ST or an Amiga ST emulator? ■ Various (ST and Amiga) PD catalogues there have been various emulators claiming to do what seems the impossible! Surely it would be possible for an emulator to be available for either brilliant machine if the emulator is hardware as well as software!

Rob Chapman, (member of Rost-PD Demo writers!), Kenilworth, Warks

- Well, an Amiga emulator for the ST was advertised two years ago by a certain company which promptly went bust. We've never heard of one that works. Frankly I doubt there'll ever be a viable one.

I read the letter from Timothy Smith (Express 29) regarding the shortage of staff in the computer industry and how he could not get a job.

I left school with 4 GCSE grade Ds (CSE 2-3), 1 GCSE E and 2 GCSE Fs and I am now working in computer operations which basically entails keeping the system running and doing data backups in the morning. There is currently a job in ops with my company and we have had one application for it in two weeks. I think that this proves that there are plenty of jobs out there for someone to fill and that anyone with a reasonable amount of knowledge in computers can get a job and work their way up rather than start at the top as Mr Smith is trying to do.

S Lyle, Chelmsford, Essex

- Tim said ■ was finishing his HND in Computer Studies, so you can understand

More pages packed with another selection from our postbag and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to: **Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ**

PS: Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

that he'd expect to start a little higher than the bottom. As you don't say where you advertised this op job, or how much you're paying, it's difficult ■ make a comparison.

I started programming when I was 8 with the BASIC language. I am now 12 and program in Assembler and BASIC on the C64. Do I qualify to be the youngest programmer?

Mark Reynolds, Shrewsbury, Salop

- So far, yes...

If we don't get our Atari 8-bit column, I hope that:

- a) your hard drive gets a virus and turns into a floppy
- b) you get caught 'peeking'
- c) your wife sees all those bytes (also very embarrassing ~ can sometimes cause a severe reduction in peeking)
- BT cuts off your modems (stops



On May the 8th I sent a letter to Elite Micros in response to their advert (page 40, Express 25). As requested, I enclosed a cheque for £1.00. In response, I got a note scribbled on the back of my letter - no catalogue or money back.

I consider this a 'con' and hope this letter will save other people losing money.

- Perhaps they haven't cashed your cheque; ask your Mum or Dad to check their bank statement. (Unless, of course, you wrote the cheque yourself, in which case, what are

peeking and poking completely)
R Le Baigue, Wellingborough, Northants

- Just as well the fortnightly Atari 8-bit column is back next week. And that I'm not married.

Having today telephoned Database publications, I can now confirm without a shadow of a doubt that the Spelling Checker and Thesaurus for the Amstrad PCW computer will hopefully, possibly, maybe (well they are working hard ■ it) be ready in one week. ➤

FOURTH REICH

I hope that the
increase in
is
come
Hitler and
Nazi
the
Nazi
Bismarck
M...

- Don't think inflation at 8% quite matches that of Germany between the wars; but if we start pegging the price of Express to the Gold standard and annexing other magazines, then you can worry.

WAGGISH TALE

Twenty years ago, there was no threat of AIDS. There were no AIDS cases. People were not dying because the virus didn't exist. It was a case of the tail wagging the dog.

- One even watched
pot calling the kettle black
for spoiling the child
in the north star.

BIT OF PRAISE

Thanks for your interest in the fact that people are more likely to be involved in a machine's safety.

OLD HAT

Jason Holmbeck, author of *Philosophy of Language*, is a faculty member at the University of Illinois at Chicago. He is also the author of *The C64 in the Classroom*, a book about using the C64 in the classroom.

- Don't mess with
Ninja Jason. He's a karate
black belt — and I'm not
joking.

► I can also confirm that wind and weather permitting, it is within the bounds of possibility, and could be on the cards that people who have paid for the software will receive it in two weeks.

Unless you phone the order line. They, it appears, use different Rune stones and guarantee delivery next week, and have been doing so every week for 2 months. Brian Smith, Plymouth, Devon

● Sounds like the joke they tell in the Soviet Union about the chap buying a car. 'I'm glad to say your Lada will be delivered on the afternoon of June 17th, 1995', says the salesman. 'Can you make it the morning?' says the bloke, 'because the plumber's coming in the afternoon'.

HE WHO NEWCASTLE BROWN KNOWS

For my sins I have to commute from Eastbourne to London. A year ago I made the journey more tolerable by buying a fat and glossy computer magazine, and drinking perhaps three cans of Newcastle Brown beer.

Then the penny dropped with a resounding clang. I was spending a fortune. Also, I neither needed nor could afford the fancy merchandise features; and by the time I'd drunk half the beer I

was half asleep anyway.

These days I never sleep whilst in transit. It is either your colourful, informative and reasonably priced magazine which keeps me awake – or perhaps it's the British Rail Coffee! Mike Coleman, Wimbledon Park, London

● Or the frightening thought that the coffee and your long-distance season ticket has gone up by 20% despite the fact that BR is the only commercial passenger rail service to make a profit in the world (whoa, bit of political satire there).

BACK PROBLEM

I have had great difficulty ■ obtaining copies of your magazine Express in our area. I have now placed an order with a local newsagents but unfortunately I have missed a couple of copies.

The newsagent has told me that ■ cannot obtain these back copies for me. This is particularly disappointing to me as I am in the process of collecting your series on the 'A to Z of computing'. ■ it possible for me to obtain these copies direct from you or copies of the 'A to Z' that I have missed? The date of the copies I have missed are the 29th April issue and the 13th May issue.



• He should read Express – ■ much more interesting, says Mike Coleman

From little acorns, great prices

With the recent launch of the Archimedes 3000, many were expecting great things. As you pointed out, the marketing strategies of Acorn, make the mind boggle. Not only does the machine cost well over £700, admittedly for incredible hardware, but they have also left extensive Input/Output facilities (a TV output for example) – this is a down version which Jack Schofield of The Guardian pointed out in his recent article.

Though Acorn have recently published reports of pre-tax profits, do they seriously believe that this 'entry-level' machine will attract the followers of the BBC Model B series? I have used the Archimedes at college, with the new RISC OS, and it is a stunning piece of equipment but the market they seem to be aiming for simply cannot afford £700 – with no 'entertainment' software support. Even those who may wish to use it for more serious applications will aim for a higher spec 410 than one which has only one expansion port.

Maybe Acorn might like to drop recouping development costs in the short term for extended security in the future. Their position in the USM (Unlisted Share Market) has long been very dubious. Possibly the dropping of BBC TV backing might be attractive, especially since Acorn have such a strong standing in the

educational sector and so on. ■ obtained the publicity that was once essential to their existence which would reduce production unit costs by not having to pay the hefty royalty that is currently paid to Beeb.

Whatever way they go, it is sad to see a company with an excellent reputation for technical achievement and solid user base support lessen their chances of making it big again in the once more burgeoning personal micro sector.

an unwise decision for the future. Ian Fa Li, Milton Keynes, Bucks

● I'm sure few people would disagree with you. What effect would the dropping of TV backing have? I don't know; all I do know is that the BBC seem very keen to push BBC machines (including the BBC A3000) – see The Software Show, Blue Peter, this week's competition in the Radio Times etc. (and last week's Express back page).

Anyway, let us know your machine, and as the winner of this week's mystery prize we'll send you a piece of software.



Acorn's 3000: another lost opportunity

I find the articles you produce very informative and have suggested that our Resources Centre order ■ copy for our Library, so that students can keep up to date with the advances in microcomputing.

P D Stadden (Lecturer in Mathematics and Computing), Hengoed, Mid Glam

● Back copies are available from The Old Barn, Somerton, Somerset, TA11 7PY for 75p each (many issues are sold out but 20 onwards should be OK).

We might just reprint the complete collected A to Z, with updates, sometime ■ autumn, though nothing is finalised yet.

PD AIN'T PIRACY

I would like to reply to Alex's letter titled 'Protect and Survive' (Express 29).

I share his views entirely that piracy should be stamped out, but I strongly object to his comments on classifieds. Myself and some colleagues run an Atari user and PD club in conjunction with a commercial software company. In order to build up a respectable library of titles we have found it necessary to answer adverts in the classifieds. In these dealings we have found very few pirates trying to sell their wares behind the cover of PD software. We also advertise in these classifieds ourselves as we are a small company with a limited budget and we feel we are in no way encouraging piracy of any sort ■ doing ■.

Alex should try answering some of the adverts before he starts making accusations that he cannot prove. I do understand that there are a few pirates using these methods of distribution but I disagree with his generalisation that most users of this service are pirates. Ian Slater, Paradise Computers, Brighton, East Sussex

STORY

I want to tell you ■ story. I own an Amiga. On the 19th of November 1988 I took a visit to the Commodore show in Hammersmith. There I saw a stall labelled 'The Computer Trading Company'. I gave them a passing glance and went to the stall opposite, where they were selling ►

EA's Test Drive and Battlechess for fifteen pounds. When I enquired about the price the man who owned the stand said, "I have to tell you, the stand opposite is selling these games for a tanner although God knows how he gets them that cheap".

I went across to the stall in question, "The Computer Trading Company" where I purchased a copy of Marble Madness for £10.

When I got the game home, it failed to work, returning GURC Meds and a read/write error again and again. So I took it back the following day, when they said that they didn't have another copy in stock, but they could take my copy and send another game through the post.

OK. They gave me a receipt, which I still have. Three weeks and nothing. I phoned the number at the top of the receipt, and time after time it rang for about five minutes before someone picked up the receiver and put it back down again. I looked through the telephone books. No such number or company. I phoned directory enquiries. No such company listed.

Then (don't ask why) I was at the Atari show when I saw the same company again. When I politely enquired, the guy said, "uh, um er, ooh, err, umm - it shouldn't be long now." Or words to that effect. Seven months and still nothing. I didn't take it any further. But the thing is, I think the public must be warned, because the chances are that they will be operating this next Commodore show. And it is not fair.

It might also be worth noting that the company's name was not listed in the November Show Guide. The company

operate (supposedly) from Westow Hill, Crystal Palace, SE19.
Russell S Fox, Southfields, London

GRIPE WATER

A minor gripe coming up. The Amiga Blit column in issue 28 published a 'cheat' for Hybris. This 'cheat' is in the instructions that come with the game, thanks for nothing!

Minor gripe number 2 on issue 32. I've noticed a few spelling mistakes in your mag lately and while this shows that we are only human I would like to know if you use a spelling checker in your word processors and if so, tell me which one it is we can avoid it. Tee hee!

PS How about some competitions?
Neil Barnes, Birmingham, West Midlands

● Spell chequers ah useful butt ewe sum thymes fined nonsense past as 'rite'.

Competitions? No sooner said! Look out for our first comp of 1989 next week...

POINT TO POINT

I have several points to make:

1 I think Express is a load of rubbish; cheap, bad quality printing, boring, out-of-date reviews and articles and a total rip-off.

2 I was amazed to see in issue 29 you actually acknowledge that Elite was originally a BBC game, released by Acornsoft at the end of 1984. In your previous issue (that's issue 28, for all you C64 owners out there) in your A-Z you mention Elite, but make no mention of Acornsoft or even the Beeb (incidentally, one of my computing friends, a CPC and

ST owner who has never owned a Beeb thinks the Beeb version is still the best - not having seen any other versions I cannot really comment.)

3 What does a robotic politician say? I be MP. see! (No boring jokes about that being most of them, etc.)

4 Although I agree with your choice of the best wordprocessor for the Beeb (Express 27), it is a fact spelt *interword* - no Americanisms here, please.

5 I only read one and two-star reviews in your magazine - a sort of sadistic mind I suppose. You never review any Beeb games anyway (subtle hint) so it doesn't really bother me.

6 Piracy would not be stopped by lowering the price of games. Suppose you had the choice between paying £4.95 for the latest mega-game on your Stamiga, or copying it from your friend. I know which anyone who presently indulges in keeping backups for your best mate (a euphemism) would choose. No hypocritical letters on this subject next week, please.

7 Any promise which everyone knows has no chance of being fulfilled has recently been dubbed a Tynesoft promise at my school.

■ And finally (massed sigh of relief).

9 I didn't honestly mean what I said in point 1 - in fact I meant totally the opposite (in case you hadn't already guessed.)

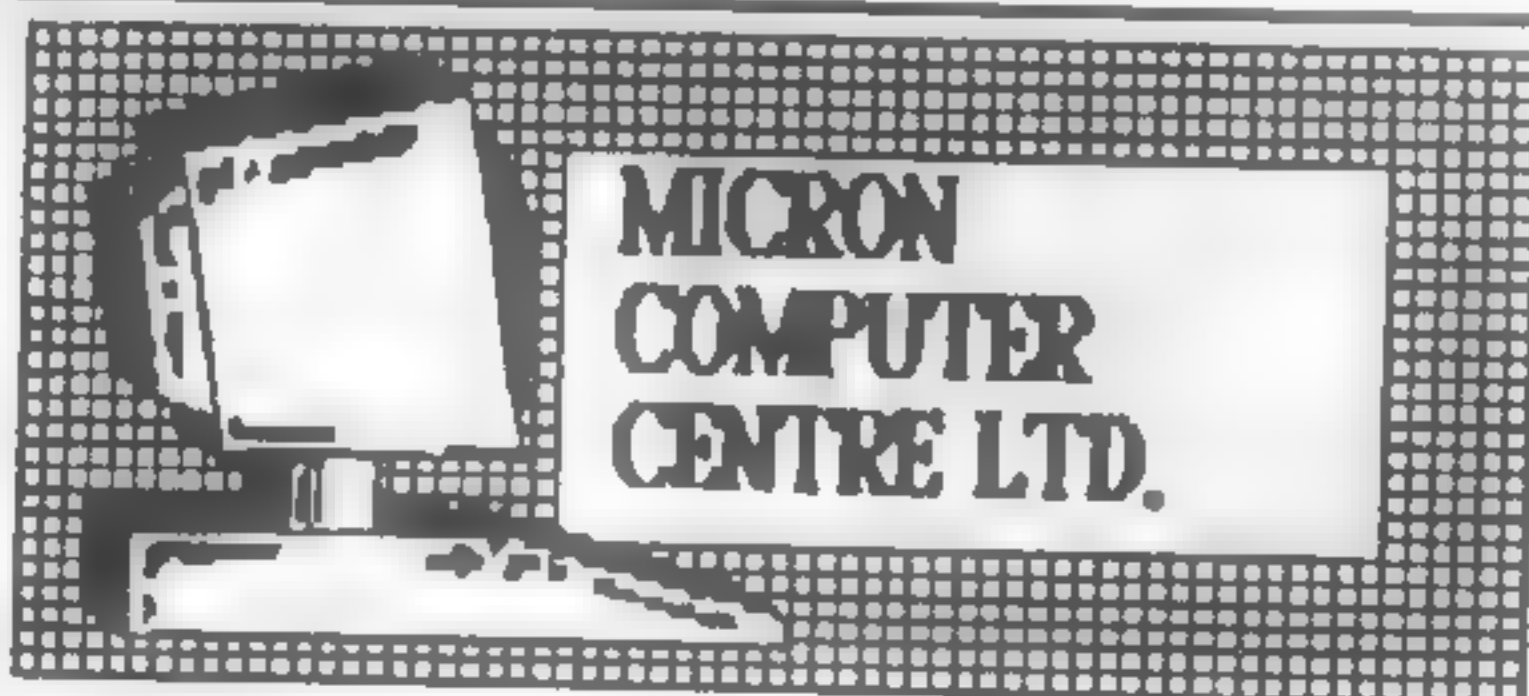
Jeremy Benson, Bedford, Bucks

Don't forget!

Express wants to hear from you about the practice of reviewing games before they're finished. Write to What Price Exclusive? at the usual address, and on that note, it's emerged that Express did review the completed version of US Gold's Forgotten Worlds. Sleeper wants to see character here, and the...



• Express is a total rip-off and a load of rubbish, says Jeremy Benson



**MICRON
COMPUTER
CENTRE LTD.**

TOP QUALITY AMIGA HARD DRIVE SYSTEMS

(ALL UNITS CONTAIN FAST 11ms QUANTUM PRO-DRIVE)

A500 UNITS INC. STYLISH CASE/POWER SUPPLY/FAN ★ ★ FREE ★ ★ 2MB RAM BOARD (OK)

A2000 INC. DRIVE/CONTROLLER ON ONE CARD. (OPTIONAL 2MB RAM BOARD)
(POWERED FROM AMIGA BUS)

A500: 40MB - £650 80MB - £880
A2000: 40MB - £635 80MB - £865

LOW COST UPGRADES AVAILABLE.
TRADE ENQUIRIES WELCOME.

ALL PRICES INCLUDE VAT.
GOODS/PRICES SUBJECT TO AVAILABILITY

**FULL COMMODORE
RANGE AVAILABLE**



**73 KEMPSON DRIVE
GREAT CORNARD
SUFFOLK. CO10 0YE**

**TEL: 0787 881998
FAX: 0787 881225**



★ ★ **NEW COLCHESTER STORE SOON** ★ ★

ATARI ST and C AMIGA

Sixteen Bit Superdeals from the Sixteen Bit Specialists !

CUSTOMERS PLEASE NOTE! When comparing prices remember ours include fast delivery by courier.

NEW!

520 STFM Power Pack £359.00

Inc. VAT and Next Day Delivery

Power Pack includes:

- ★ 520 STFM 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
 - ★ Over £550 worth of games software, including OutRun, Gauntlet 2, R-Type, Space Harrier, Super HangOn and 16 more Top Games
 - ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
 - ★ First BASIC and First Music Utility Software
 - ★ FREE JOYSTICK
 - ★ All leads, manuals PLUS MOUSE and free mains plug!
- REMEMBER!** Many ST's do not come with BASIC - ours come with ST BASIC REV D by Metacomco.

520 STFM SUPER PACK £329.00

Includes everything in the 520STFM Power Pack, but with £450 worth of Games and includes Metacomco Basic

1040STFM Super Pack £439.00

Includes everything in the Atari 520 STFM Super Pack but with the 1 megabyte memory 1040 STFM Keyboard

1040STFM Business Pack £439.00

Business Pack Includes:

- ★ Atari 1040STFM Keyboard with 1 meg memory and 1 meg built-in disk drive plus TV modulator.
- ★ £385 worth of Business Software including MICROSOFT WRITE word processor (£150), SUPERBASE PERSONAL Database (£60) and VIP PROFESSIONAL Lotus 123 Spreadsheet clone (£150).
- ★ All leads, manuals and mouse.

MEGA 1 BUSINESS PACK £529.00

Features:

- ★ Separate Keyboard and System Unit
 - ★ All the Software included with 1040 STFM Business Pack.
 - ★ Blitter chip installed for faster graphics
- Inc SM124 Mono Monitor..... £628.00

ACCESSORIES

| | |
|--|--|
| Quickshot II Turbo Joystick.....£9.95 | Branded Memorex 3.5" DS DD Disks |
| Competition Pro 5000 Joystick.....£13.95 | Box of 10.....£13.95 |
| Competition Pro with Autofire.....£14.95 | Memorex Disk Box |
| Konix Speedking Joystick.....£11.95 | For 40 3.5" Disks.....£8.95 |
| Red Mouse Mat with Amiga logo.....£6.95 | Amiga A501 1 Meg Expansion.....£134.99 |
| Plain blue Mouse Mat.....£5.45 | Amiga A501 + Dragon's Lair.....£169.99 |

PRINTERS

| | |
|--|---------|
| Star LC24-10 24 pin incl. lead ST/Amiga | £339.00 |
| Star LC10 including interface lead for ST/Amiga..... | £199.00 |
| Star LC10 colour including interface lead for ST/Amiga..... | £249.00 |
| Citizen 120D including interface lead for ST/Amiga | £159.00 |
| SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES | |
| Seikosha 9 pin NLQ including interface lead for ST/Amiga | £139.00 |
| Seikosha 24 pin LQ including interface lead for ST/Amiga | £279.00 |

Amiga A500 System 1 £365.00

Inc VAT and Next Day Delivery

**NOW INCLUDES
WORKBENCH 1.3**

System 1 includes:

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ Amiga BASIC, Amiga EXTRAS, 1.3 Workbench 1.3 PLUS the Amiga Step by Step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

Amiga A500 System 2 £385.00

- ★ Amiga A500 System 1 PLUS over £280.00 worth of software comprising 10 games, PLUS either SPRITZ or PHOTON PAINT GRAPHICS PACKAGE.

Amiga A500 System 4 WITH 500 FREE AIR MILES! £449.00

NEW!

includes everything in our Amiga System 1 package PLUS SPRITZ Graphics Package, disk storage wallet for 25 disks, Who Framed Roger Rabbit, Nebulus, Starray. PLUS 10 other FREE games worth £230.00 PLUS 500 FREE AIR MILES, enough for a return trip to PARIS, AMSTERDAM OR BRUSSELS!

AMIGA 1 MEG! £499.00

Announcing the new Amiga 1 meg-an A500 system 1 with fitted 1 megabyte memory expansion and clock card PLUS TV Modulator AND DRAGON'S LAIR a six disk 1 meg megagame!

AMIGA 1 MEG + £519.00

Our Amiga 1 meg + also includes the £230 worth of games software normally given with our A500 System 2 Games Pack.

EXTERNAL DISK DRIVES

| |
|---|
| Atari SF314 1 Megabyte.....£139.00 |
| Amiga A1010 1 Megabyte.....£139.00 |
| Cumana 1 Megabyte Atari or Amiga.....£99.95 |
| NEC 1 Megabyte Amiga.....£89.95 |
| Atari Megaflo 30 Hard Disk.....£359.00 |

MONITORS

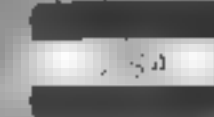
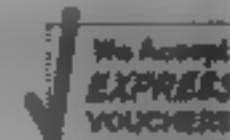
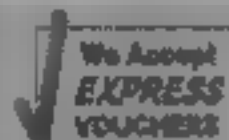
| |
|--|
| Commodore Amiga A1084 Stereo colour Monitor inc lead.....£269.00 |
| Atari SC1224 Colour Monitor inc lead.....£259.00 |
| Atari SM124 Mono Monitor including lead.....£104.00 |
| Philips CM8833 stereo colour monitor inc. lead for ST or Amiga.....£249.00 |

CREDIT CARD ORDERLINE = 0908 78008 (Mon - Sat 9am - 6pm)

To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. Callers are also most welcome at the address below

DIGICOM

Unit 36, Wharfside, Fenny Stratford, MILTON KEYNES MK2 2AZ
All prices include VAT and delivery by courier



COMPUTING: DOESN'T IT MAKE YOU SICK...

Eye strain, back pain, migraine and general headaches, skin problems, stress – and even miscarriages and birth deformities – are a few of the complaints linked with using computers. Are you damaging your health at home or at work? Basil Pigg investigates...

Computers damage your health – of that there can really be no doubt. Even a couple of hours playing your favourite game or hacking away at your word processor will leave you rubbing your eyes and feeling a bit listless afterwards.

The odd hour or two here and there though isn't going to cause any serious problems; after all, the effects are only the same as watching the TV for the same period or spending the same time in a smoky pub.

But when the amount of time spent in front of a monitor – visual display unit, or VDU – gets up to four hours a day or so, you could well start to notice a few problems. Eye strain, headaches, stress, skin diseases and miscarriages have been linked with VDUs. And with more and more jobs requiring you to work with a VDU, you could find that a day in the factory or the office – perhaps followed by an evening session on your micro at home – makes you sick. Literally.

Not all are the sort of things that will kill you, but they can make life a lot more uncomfortable. At least being forewarned is being forearmed.

The hazards fall into five categories: eye problems, muscle injuries, skin complaints, stress, and pregnancy hazards.

The eyes have it

The most common effects of a VDU are on the eyes. Burning or sore eyes, blurred or double vision, even changes in colour perception are quite common (anyone who spends their life looking at the green screen of a PCW or CPC will sympathise!).

Eye strain is caused by muscular fatigue – the eyes spend all the time focusing at the same thing. Glare on the screen from a window or light makes the screen more strenuous to the eyes. Flickering doesn't help either.

Amber screens seem easier on the eye than the green favoured by many manufacturers. Amber is the standard colour of computer monitors in France.

Contact lens wearers often suffer from discomfort because of a lack of humidity; VDUs dry out the atmosphere around them pretty efficiently. Central heating and bad ventilation make things worse – the simple remedy may be to keep a window open; the drastic remedy is overhauling the heating system.

There are murmurings, none of them substantiated as yet, that the radiation from VDUs may cause cataracts – this may be something we hear about in the future, but let's hope not.

Most opticians say that using a VDU shouldn't



affect the strength of your eyes that much – any changes in, for example, the prescription of your glasses, are more likely to be a sign of natural variance in the shape of your eyes (probably due to age!) than anything else. That said, anecdotal evidence seems to suggest that a lot of people have had to change their glasses – or even start

wearing them – after starting heavy work on VDUs. A recent survey by the US National Institute of Occupational Safety found an inordinately high rate of problems in focusing among those in their 20s and 30s who spent more than six hours a day in front of a VDU.

The simple answer is to keep seeing your

The legal angle

There is no legislation in the UK currently involving computer VDUs in the workplace, only the guidelines laid down by the Health and Safety Executive. The VDU Worker's Rights Campaign (address overleaf) would like these made law:

a) VDU use is no more than 4 hours a day and no more than 50% of the working day, and

that 15 minute breaks per hour be compulsory

b) Design requirements for office furniture laid down

c) Compulsory electronic shielding of VDUs against electromagnetic emissions

d) The right of VDU workers to transfer to other work when planning to start a family

These proposals are backed by a hundred MPs, but

currently look unlikely to be considered further, as none of those are Conservative. Similar legislation to a) and b) has already been passed in some parts of the US. The European Commission is pushing to make member countries of the EEC pass laws on VDU use by 1991, though this doesn't mention electronic shielding.

HEALTH AND COMPUTERS

REPORT

optician regularly (if you can afford the new fees) and let them know that you work with VDUs. Bifocal wearers may need their glasses adjusting for the usual eye-to-screen distance.

In your study, office or bedroom, you should follow these guidelines for the sake of your eyes:

- VDU work should be limited to a maximum of four hours a day (to a maximum of 50% of the working day in an office) with a break of 15 minutes every hour
- VDU screens should be positioned so they don't reflect any glare - i.e. at right angles to windows
- Anti-glare screens should be fitted - there will be ads in your machine-specific magazines
- Overhead lighting should be bulbs rather than fluorescent tubes - they glare too much
- Adjust the screen brightness and contrast to suit the operator

Pickled muscles

Remember Writer's Cramp? There are dozens of computer-related muscular complaints now. Most of them come from the posture you're expected to hold while at the computer: awkward positioning of keyboard, monitor and chair can cause backache, neck pains, shoulder problems and so on.

Beating them is largely common sense: you make sure you're comfortable, that you can see the screen without straining or tilting your head, that your feet touch the floor or footrest, that the chair gives good back support and so on. If you're even slightly uncomfortable when you first sit down, it'll turn into strains and aches after an hour or two. And regular breaks from solid keyboard use are essential - 15 minutes per hour at least. It's constant typing that causes problems; data entry operators such as typist or sub-editors have been shown to be more at risk than programmers or writers.

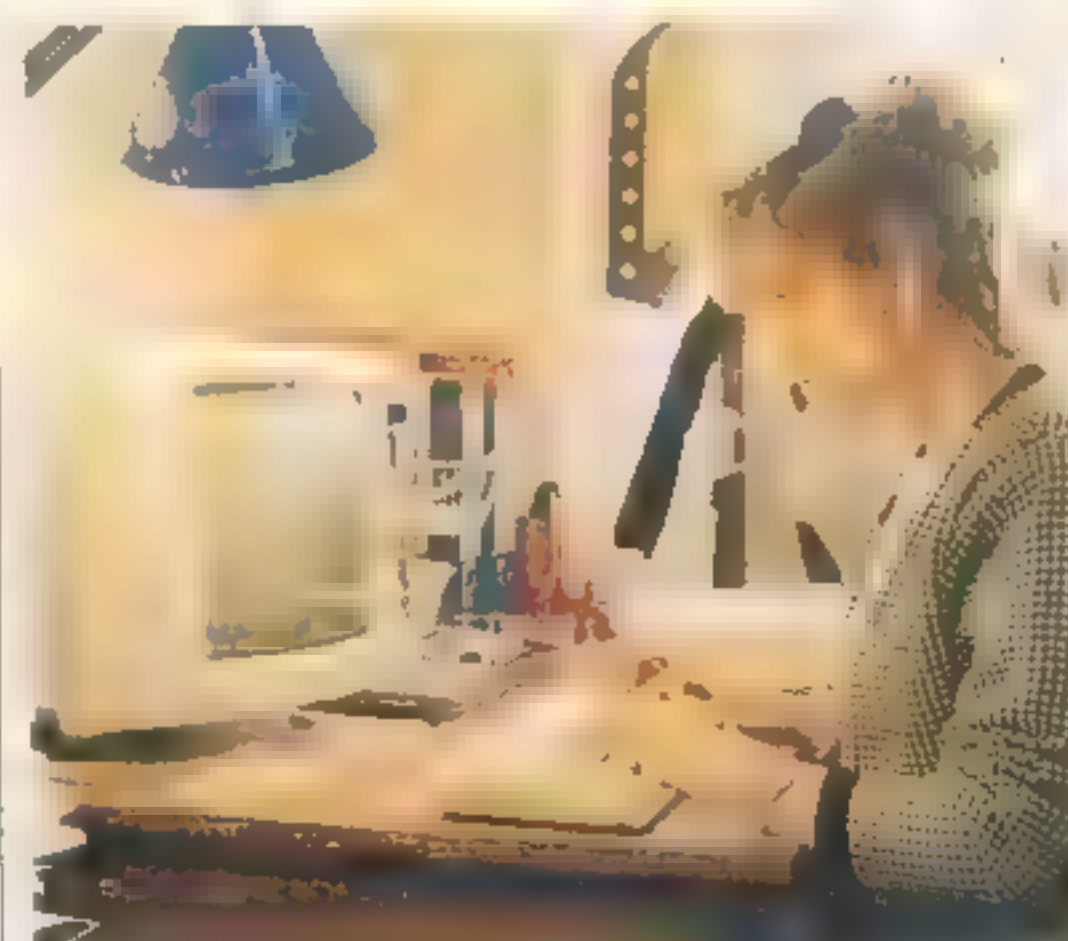
The keyboard should be at a level so that the hands are horizontal when they type; there are special ergonomically designed keyboards available now whose rather odd knobby shape is claimed to be easier on the hand (see *News, Express* 29).

In the news recently has been the more insidious complaint of RSI - repetitive strain injury. It's caused by continuous or repetitive hand or arm actions and can have extremely painful effects on the joints and tendons. Good old manual typists suffered less from it because



DAILY TELEGRAPH

• RSI isn't just a matter of stiff wrists. It can be a crippling disability and could lose you your job



• Pregnant women may be at risk from miscarriages if they work in front of VDUs. The Amstrad PCW is one of the highest emitters of radiation, which some think may be a factor

the carriage return broke up the sequence of movements; with electric typewriters and now word-wrapping computer keyboards, you can input text for hours and hours without your hands leaving the keyboard.

Tenosynovitis, the most common RSI complaint suffered by computer operators, cripples the wrist tendons and is a recognised industrial

disease (as is Writer's Cramp) whose sufferers may be eligible for some social security benefits.

It sounds alarmist to talk about going to the doctor with a slight ache in the wrist because you've been overdoing the typing - but permanent disability can result.

Slip me some skin

At first it seems odd that skin complaints should be apparently caused by VDUs. But in a survey in Sweden, VDU workers reported conditions varying from exotica such as rosacea, telangiectases and seborrhoeic dermatitis to the more prosaic acne. Astonishingly, only 6% reported normal skin.

Not all of this is due directly to the VDU screen. The most likely explanation seems to be a combination of inadequate ventilation, an over-dry atmosphere and excessive static electricity.

Many air-conditioning systems were not designed to cope with the extra heat generated by computers, resulting in a dry atmosphere. But a more insidious effect of the VDU screen is that it spits out positive ions - electrostatically charged particles which charge up the dust in the atmosphere and cause dry skin and irritated eyes. Anti-static cleaning fluid and screen wipes, and even negative ionisers to combat this are available from various office suppliers, but again the remedy seems one of common sense: keep your office or bedroom well ventilated - open a window. And don't spend too much time in front of the monitor - remember that 15 minutes break per hour.

Point to stress

Stress is one of those things that isn't actually caused by working at a computer, just aggravated by it. The fact that we all rely more and more on computers to do some parts of our job for us mean extra nail-biting when something goes wrong with them, or you can't figure out how to make the damn things do what you want.

The stresses of your job (and your everyday life) are probably quite enough to cope with, without having your data disk corrupted or someone accidentally pulling the plug on your day's work. And working in uncomfortable conditions doesn't help either.

Those most likely to suffer from stress are again typists and sub-editors - those who work to deadlines more - rather than programmers, writers or journalists.

Again, the remedies are largely common sense: stress is minimised by having comfortable conditions, a job that doesn't rely too much on the computer, adequate training and a pleasant social atmosphere.

It's something less likely to affect the home user as it's so much easier to switch off, literally or metaphorically, and listen to some music or go for a walk or watch telly or whatever. In fact, you probably play computer games as a relaxation and way of winding down from stress!

Reproduction problems

It seems certain now that there is some link between using VDUs and miscarriages. But the hows, whys and how much of this, possibly the most worrying of all computer-related disorders, are still being argued over. The 'normal' rate of miscarriages is not known for certain and has been reported as being between 10% and 25%. 'Clusters' of miscarriages - i.e. a lot of women in the same area or job experiencing above-average rates of miscarriage - are a standard statistical phenomenon. But when the clusters start appearing over and over again in offices with VDUs, eyebrows are raised.

Since 1979, when four out of seven pregnancies among VDU operators at the Toronto Star ended in deformities, several studies have been done on pregnant women who use computers at work. The results are open to question but raise serious points.

The most recent, one which was reported widely in the press, was done by a health care organisation in the States, Kaiser Permanente. It

The Strange Case of the FT

The *Financial Times* hit the news recently because of an 'outbreak' of RSI, principally among their sub-editors.

They went over to direct input - the keying-in of all text directly into a computer which makes up the finished pages - about two years ago. Last autumn a few employees noticed stiffness and pins and needles in their wrists and hands; the pains got worse and severe cases of RSI were diagnosed. Fifteen cannot now use keyboards at all.

'Some people couldn't grip things properly - couldn't drive or pick up their children,' one told us. 'Once you've got RSI, it's very, very hard to get rid of. Rest is the only answer - and if your livelihood depends on using a keyboard, then you've got problems.'

Of around 300 who use keyboards, around 80 have reported RSI problems, 20 seriously. Why did it happen at

the *FT* in particular, and not in the same scale at any of the other dailies? It seems the *FT* was guilty of nothing except bad luck - when they changed to direct input RSI was not understood as well as it is now.

'Probably one reason was that the *FT* is very wordy - sub-editors have a lot of keying-in to do, to tight deadlines,' one sub told us. 'The existing chairs and footrests didn't suit the direct input system when we changed, and most important, we didn't take any breaks.'

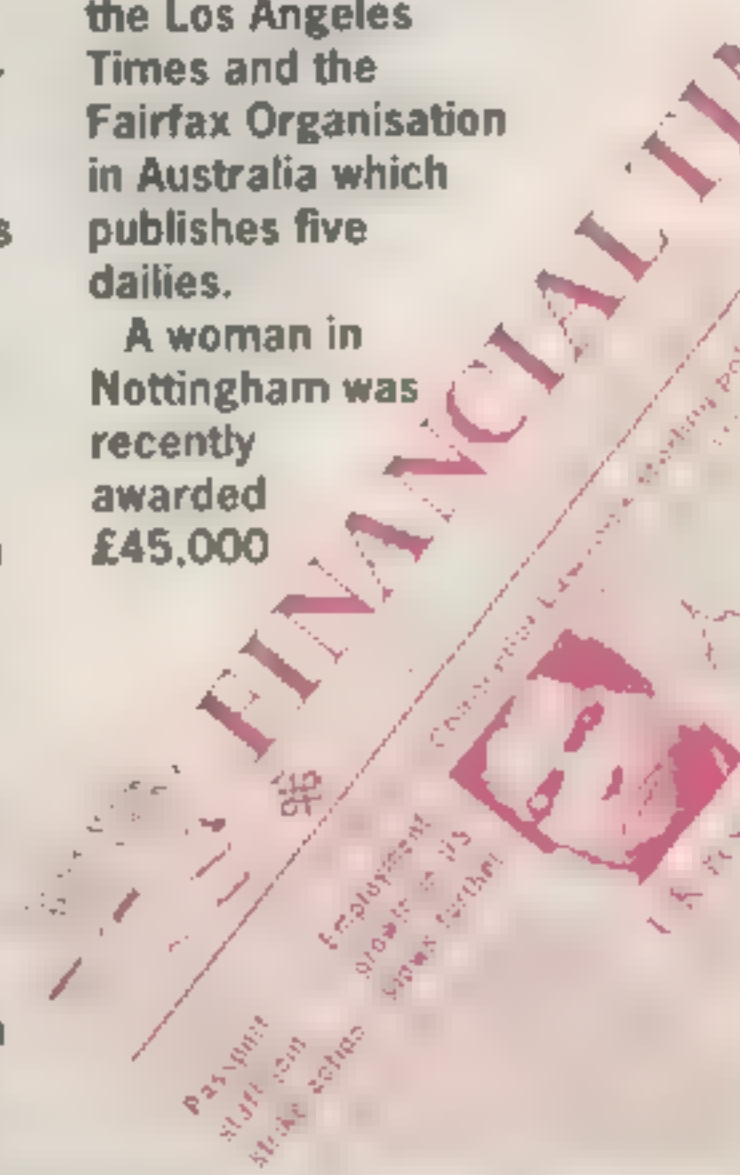
Now the *FT* has introduced regular breaks and moved to a new building with new office furniture. 'It's a bit early to tell, but things certainly seem to have got better,' he said.

A further factor could be the computer system used by the *FT*. Simpler ones involving fewer keystrokes like those used at *The Independent* seem to have caused few problems.

The Institute of Occupational

Research in Edinburgh is doing a study on the *FT* case to find the causes in more detail. Similar 'outbreaks' have been reported from other newspapers, notably the *Los Angeles Times* and the *Fairfax Organisation* in Australia which publishes five dailies.

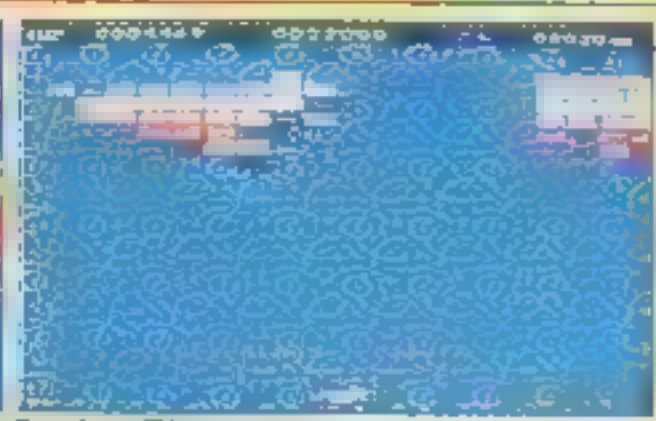
A woman in Nottingham was recently awarded £45,000



FREE! TENSTAR PACK WORTH OVER £229!



FREE! - AMEGAS - by Players



FREE! - ART OF CHESS - by SPA



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - BUGGY BOY - by Elite



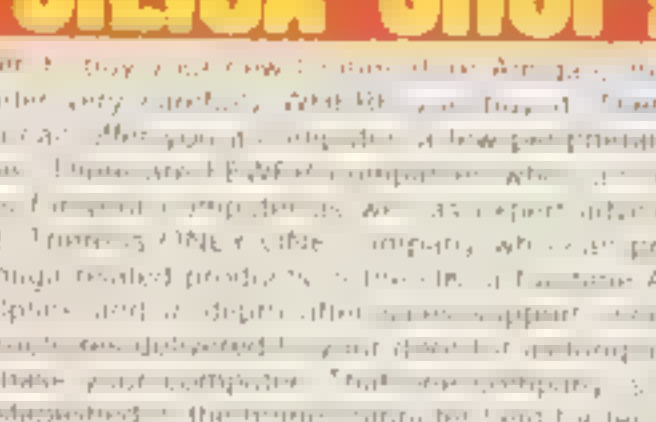
FREE! - IKARI WARRIORS - by Elite



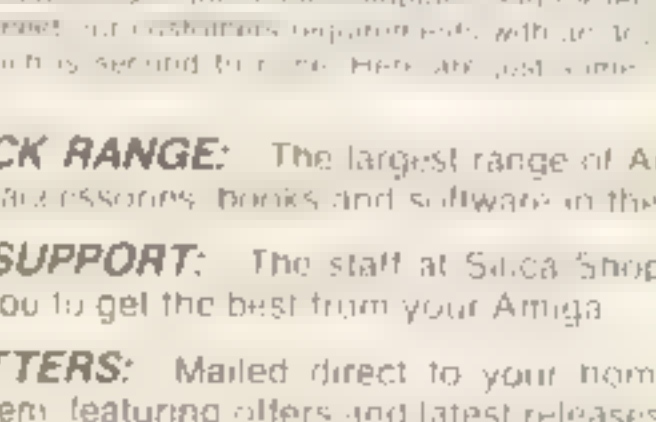
FREE! - MERCENARY COMP - by Novagen



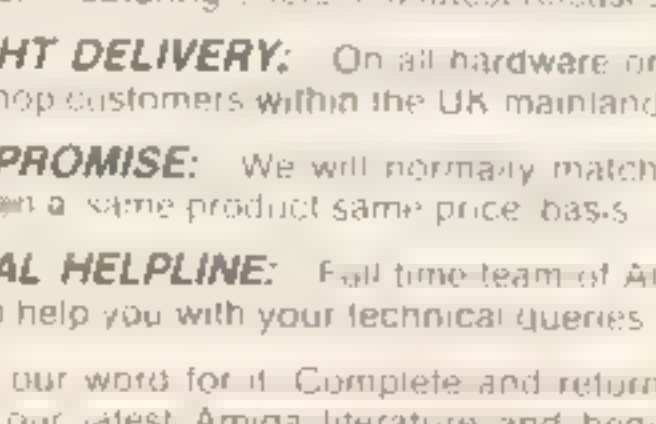
FREE! - PHOTON PAINT - by Ocean



FREE! - TERRORPODS - by Psygnosis



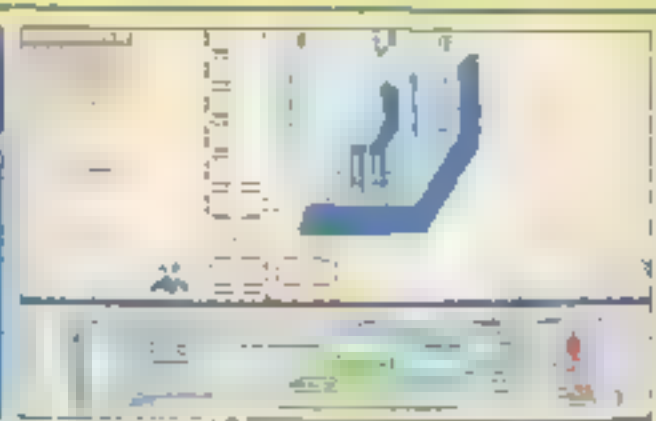
FREE! - THUNDERCATS - by Elite



FREE! - WIZBALL - by Ocean



FREE! - AMEGAS - by Players



FREE! - ART OF CHESS - by SPA



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - BUGGY BOY - by Elite



FREE! - IKARI WARRIORS - by Elite



FREE! - MERCENARY COMP - by Novagen



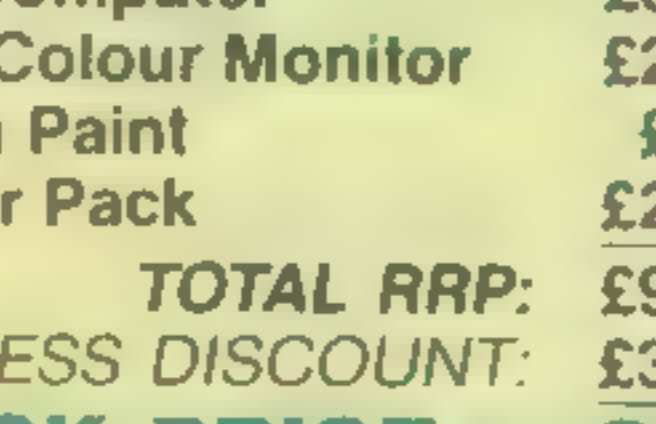
FREE! - PHOTON PAINT - by Ocean



FREE! - TERRORPODS - by Psygnosis



FREE! - THUNDERCATS - by Elite



FREE! - WIZBALL - by Ocean

Commodore AMIGA



ONLY
£3.34
PER WEEK
RETURN COUPON
FOR DETAILS

£346.95

(VAT)
£399
INCLUDES
FREE UK
DELIVERY

The Amiga 500 ■ one of ■ new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's No1 Amiga specialists, you will experience an after sales service that ■ second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. E&OE

WHY SILICA SHOP?

Before you decide where to buy your new Commodore Amiga computer, we suggest you consider very carefully what you are buying. There are MANY and many who offer you a computer at a low price, but without the support and service that you need. At Silica Shop, we offer you a computer at a low price, but with the support and service that you need. We have been in the business of selling computers for over 10 years, and we have a reputation for being the best. We have a large stock of computers, and we have a large stock of software. We have a large stock of hardware, and we have a large stock of accessories. We have a large stock of everything you need to get the most out of your Amiga.

THE FULL STOCK RANGE: The largest range of Amiga related peripherals, accessories, books and software in the UK.

AFTER SALES SUPPORT: The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

FREE NEWSLETTERS: Mailed direct to your home as soon as we print them, featuring offers and latest releases.

FREE OVERNIGHT DELIVERY: On all hardware orders shipped to Silica Shop customers within the UK mainland.

PRICE MATCH PROMISE: We will normally match our competitors offers on a same product same price basis.

FREE TECHNICAL HELPLINE: Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

PHOTON PAINT PACK

| | |
|---------------|---------|
| A500 Computer | £399.99 |
| TV Modulator | £24.99 |
| Photon Paint | £69.95 |
| TenStar Pack | £229.50 |

TOTAL RRP: £724.43
LESS DISCOUNT: £325.43
PACK PRICE INC VAT: £399

1084S MONITOR PACK

| | |
|----------------------|---------|
| A500 Computer | £399.99 |
| 1084S Colour Monitor | £299.99 |
| Photon Paint | £69.95 |
| TenStar Pack | £229.50 |

TOTAL RRP: £999.43
LESS DISCOUNT: £350.43
PACK PRICE INC VAT: £649

FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last but by no means least, so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

FREE TENSTAR PACK

| | |
|--|----------------|
| When you buy your Amiga 500 from Silica Shop, we want to make sure you get the best deal possible. That is why we are giving away the TENSTAR GAMES PACK worth nearly £230 absolutely FREE with every A500 purchased from us. The TenStar Games Pack includes ten titles for the A500, each individually packaged in its own casing with instructions. | |
| Amegas | £14.95 |
| Art Of Chess | £24.95 |
| Barbarian, Ult Warrior | £19.95 |
| Buggy Boy | £24.95 |
| Ikari Warriors | £24.95 |
| Insanity Fight | £24.95 |
| Mercenary Comp | £19.95 |
| Terrorpods | £24.95 |
| Thundercats | £24.95 |
| Wizball | £24.95 |
| TOTAL RRP: £229.50 | INC VAT |

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist Amiga service that is second to none.

SILICA SHOP
SIDCUP (& Mail Order) 01-309 1111
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
OPEN: MON-SAT 9am - 5.30pm LATE NIGHT: FRIDAY 9am - 7pm
LONDON 01-580 4000
52 Tottenham Court Road, London, W1P 0BA
OPEN: MON-SAT 9.30am - 6.00pm LATE NIGHT: NONE
LONDON 01-629 1234 ext 3914
Selfridges (1st floor), Oxford Street, London, W1A 1AA
OPEN: MON-SAT 9am - 6.00pm LATE NIGHT: THURSDAY 9am - 8pm

To: Silica Shop Ltd. Dept NCE 05 89 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
PLEASE SEND ME FREE LITERATURE ON THE AMIGA

Mr/Mrs/Ms Initials: Surname:
Address:
Postcode: Dept NCE ■ ■ ■
Do you already own a computer? If so, which one do you own?

HEALTH AND COMPUTERS

REPORT

found that women using VDUs for more than 20 hours a week in the first three months of pregnancy were twice as likely as non-working women to suffer miscarriages - results which confirmed the findings of many earlier surveys in other countries.

The radiation that comes from the VDUs has been cited as a possible cause. Although the Health and Safety Executive's leaflet on VDUs at work say that the radiation from a human body is actually more than that from a VDU, it is well known that the radiation from monitors varies from the negligible to the noticeable.

The Amstrad PCW comes off as one of the worst, though it must be said that emissions do not break any guidelines or laws, mainly because there are no laws or guidelines governing such things at the moment.

The Kaiser study authors noted in the American

journal *Industrial Medicine* that many explanations were possible apart from electromagnetic fields. Stress factors, or simple over-reporting of VDU use in those who had suffered miscarriages, could be responsible.

Bad posture has been suggested as a factor, but this would not explain why women in non-computer sedentary jobs do not seem to experience a similar rate of miscarriages.

The Health and Safety Executive's leaflet is reassuring and insists there is no proven link between VDUs and miscarriages. Pregnant women can continue to use computers, they say.

However, studies on animals in Sweden, Canada and the US have reported many times the expected level of abnormalities or stillbirths in those exposed to VDU type radiation.

A VDU produces everything from low-frequency, non-ionizing radiation (such as that

emitted by high voltage lines, radio, microwave ovens etc.) to high-frequency, ionizing radiation (like that of X Rays, TVs etc.) Everything, in fact, except gamma rays, which only appear in situations like nuclear fall-out.

The controversy centres around how much radiation is harmful. Scares in the sixties that radiation from a TV set might cause disease have largely been dismissed. Though the level from a TV set is taken as 'standard', few people sit 18 inches from a TV set for eight hours every day.

Even men may not be immune from the effects of radiation; Swedish research suggests that non-ionizing radiation may be linked with fertility problems and disorders of the reproductive organs.

The evidence is mounting generally that VDUs certainly don't do anyone, particularly pregnant women any good. It took years for smoking or alcohol to be recognised as being inadvisable for pregnant women; perhaps the time is ripe for VDU work to be thought of in the same way.

Even if the chances of damaging a baby through VDU use turn out to be as little as one in a hundred, it's a risk most mothers would not want to take.

Conclusions

Anyone who sits at a computer screen for more than, say, four hours a day regularly should take a careful look at their setup. If you work in front of a VDU it's in your own interest. Armed with a list of symptoms of the 'typical computer' diseases you can hopefully detect the problems with your system before things get serious.

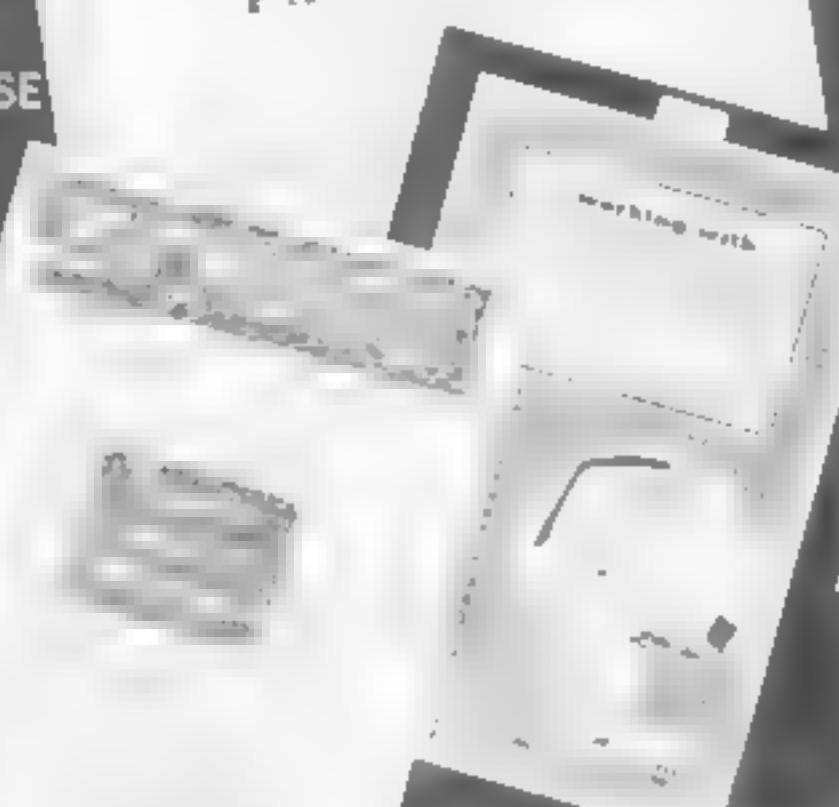
But for most of us, just using the PC at work a few hours a day and the micro at home for a bit of game-playing or word processing, there's no need for drastic measures, just a bit of common sense. Regular breaks from the screen and a comfortable chair and desk will be all that's necessary.

Further information...

There are several publications available giving advice and guidelines on the healthy use of computers. Probably the best of them is the information pack produced by the VDU Workers' Rights Campaign, which details the various ill-effects of computer overuse, gives sensible guidelines for your workplace and even includes a list of MPs to lobby. It costs £2 and is available from City Centre, 32 Featherstone St, London EC1Y 8QX. Tel. 01-608 1338. They also do a booklet 'Stress and VDU Work' for

£1.50. The Health and Safety Executive also produce a leaflet 'Working with VDUs' from area offices of the HSE or Baynards House, Chesham Place, London W2 4TF. It is much more reassuring reading than the info pack above and says there is no danger to pregnant women or to your eyesight. Get both and see which you think stacks up better!

VDU HAZARDS FACTPACK



Any Atari 520ST, 520STM, 520STFM, 1040STF or 1040STFM + The XTRA-RAM RAM Board from Frontier Software

No more "Out Of Memory" Headaches

- Internal RAM upgrade for Atari 520ST, 520STM, 520STFM, 1040STF, 1040STFM
- Expands any of the above STs to 2.5MB
- Solder-free fitting - No soldering required
- Easy installation - No need to send your ST away. Complete with detailed fitting instructions
- Supplied with free RAM disk, print spooler and RAM checking utilities
- Available with or without RAM chips
- Manufactured in the UK
- Twelve month guarantee, 10 day money back offer

Populated - £399.95
Unpopulated - £69.95

All prices include VAT and delivery



Frontier Software

P.O. Box 113,
Harrogate, North
Yorkshire HG2 0BE.
(0423) 567140/530577.

EXECUTIVE COMPUTERS

77 BARRY AVENUE, INGOL, PRESTON. (0772) 723491

All Prices plus 15% VAT (Delivery £10 per unit)

Our Price £ 5 year lease per week

| | | |
|------------------|--------|------|
| AMSTRAD PCW 8256 | 319.70 | 2.34 |
| AMSTRAD PCW 8512 | 412.92 | 2.85 |
| AMSTRAD PCW 9512 | 442.89 | 3.06 |

| | | |
|--|--------|------|
| AMSTRAD PC 1640 S/D 20 Mb MONO | 722.80 | 4.89 |
| AMSTRAD PC 1640 S/D 20 Mb COLOUR | 816.00 | 5.33 |
| AMSTRAD PC 1640 S/D 20 Mb ECD | 899.00 | 6.19 |
| AMSTRAD PC 1640 D/D 32 Mb HARD CARD MONO | 825.00 | 5.54 |
| AMSTRAD PC 1640 D/D 32 Mb HARD CARD COLOUR | 923.00 | 6.41 |
| AMSTRAD PC 1640 D/D 32 Mb HARD CARD ECD | 999.99 | 6.87 |

| | | |
|--|---------|-------|
| AMSTRAD PC 2086 3 1/2" DISC S/D 30 Mb 12" MONO | 1099.00 | 7.18 |
| AMSTRAD PC 2086 3 1/2" DISC S/D 30 Mb 14" COLOUR | 1199.00 | 7.84 |
| AMSTRAD PC 2086 3 1/2" DISC S/D 30 Mb 14" HI.RES.COL | 1299.00 | 8.49 |
| AMSTRAD PC 2286 3 1/2" DISC S/D 40 Mb 12" MONO | 1296.00 | 8.47 |
| AMSTRAD PC 2286 3 1/2" DISC S/D 40 Mb 14" COLOUR | 1439.00 | 9.81 |
| AMSTRAD PC 2286 3 1/2" DISC S/D 40 Mb 14" HI.RES.COL | 1632.00 | 10.97 |
| AMSTRAD PC 2386 3 1/2" DISC S/D 65 Mb 12" MONO | 2544.00 | 16.93 |
| AMSTRAD PC 2386 3 1/2" DISC S/D 65 Mb 14" COL | 2688.00 | 17.97 |
| AMSTRAD PC 2386 3 1/2" DISC S/D 65 Mb 14" HI.RES.COL | 2880.00 | 18.98 |

COMPUTER SPECIAL OFFER

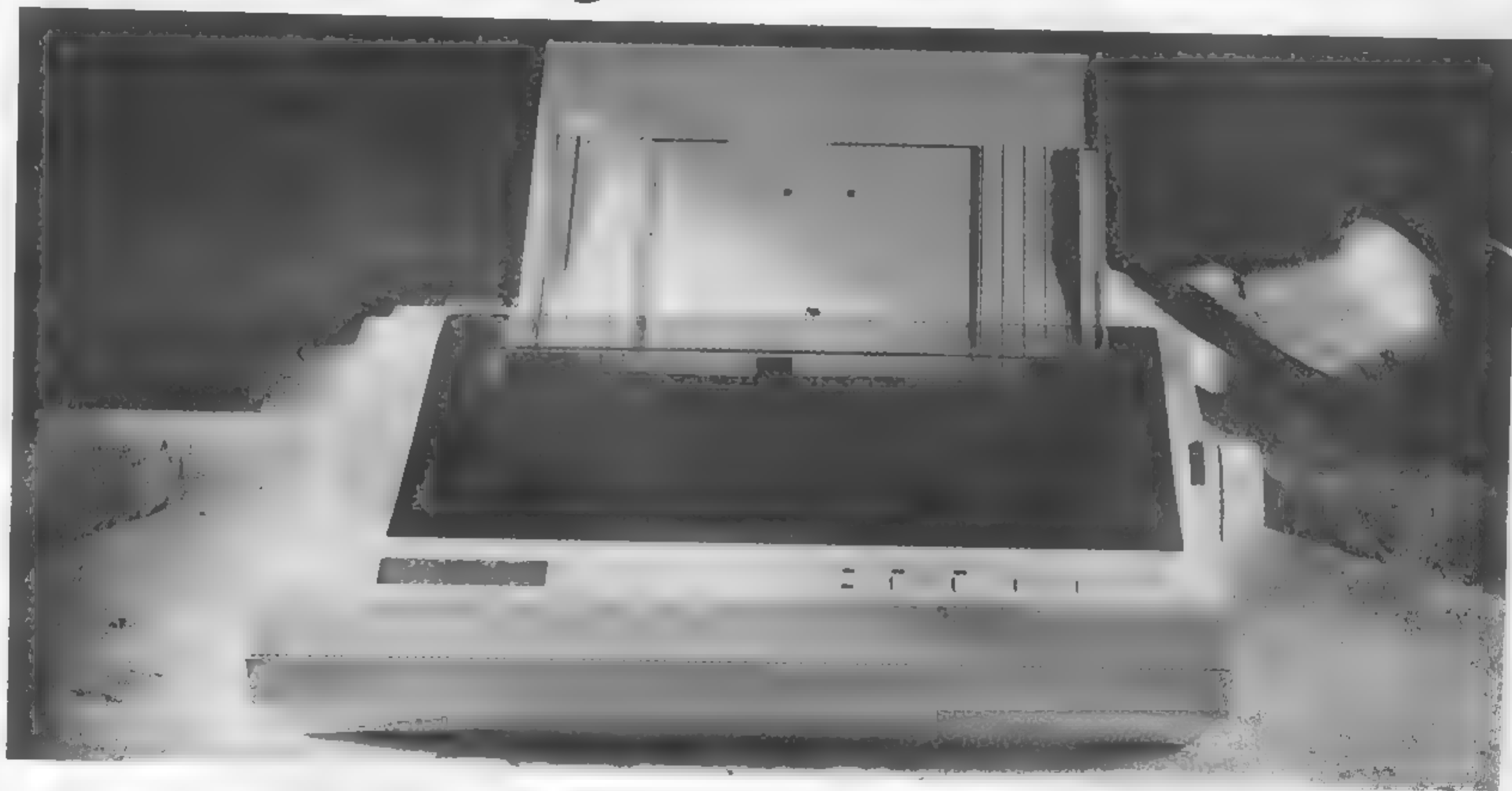
| | | |
|---------------------------------|--------|------|
| 640K S/D 20 Mb MONO | 739.00 | 4.99 |
| 640K S/D 20 Mb COLOUR | 871.00 | 5.69 |
| 640K S/D 32 Mb HARD CARD MONO | 776.00 | 5.08 |
| 640K S/D 32 Mb HARD CARD COLOUR | 907.00 | 5.93 |

Leasing is now the most popular method of equipment acquisition for sole traders, partnerships, local authorities, private and public companies alike.

LEASE

MODERN EQUIPMENT WITH NO CAPITAL OUTLAY
TAX DEDUCTABLE
HEDGE AGAINST INFLATION
PRESERVES EXISTING CREDIT FACILITIES

IT'S NOT TOO EASY GETTING A GREAT SEIKOSHA PRINTER FOR JUST £135^{+VAT}



IT'S THREE EASY.


THE COMPUTER DISCOUNT CLUB
YOUR PASSPORT TO GUARANTEED LOWEST PRICES /
WIDEST CHOICE AND FREE ADVICE

FREE 0800 282152


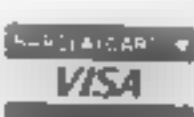
**budget
furniture**
*London's No.1
in Office Equipment*

01-737 1371

**SILICA
SYSTEMS** 

01-309 1111

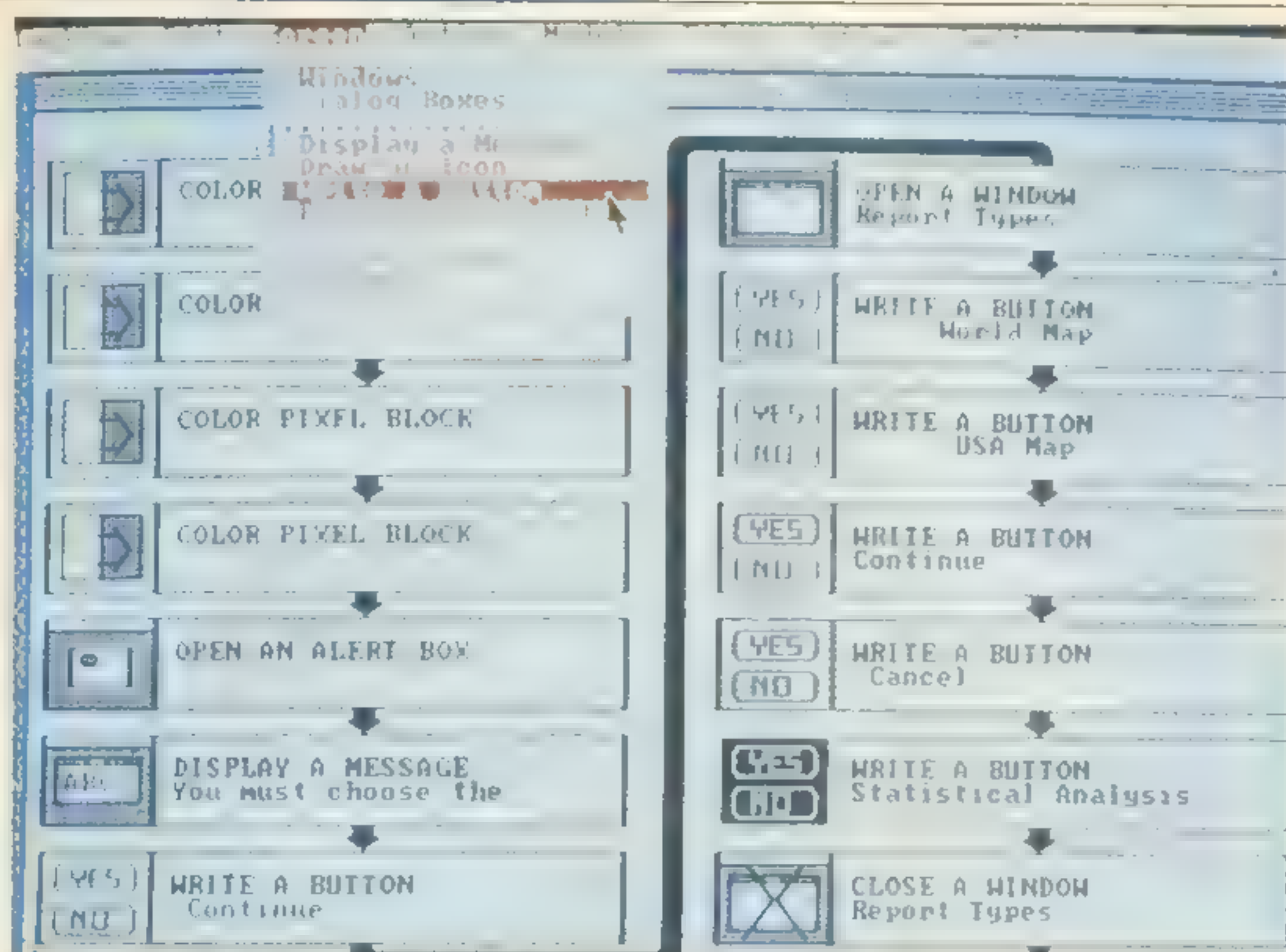
That's right - the fantastic SEIKOSHA SPI200 small business/home use printer for an incredible £135 plus VAT.

Unbeatable value and unbeatable features:

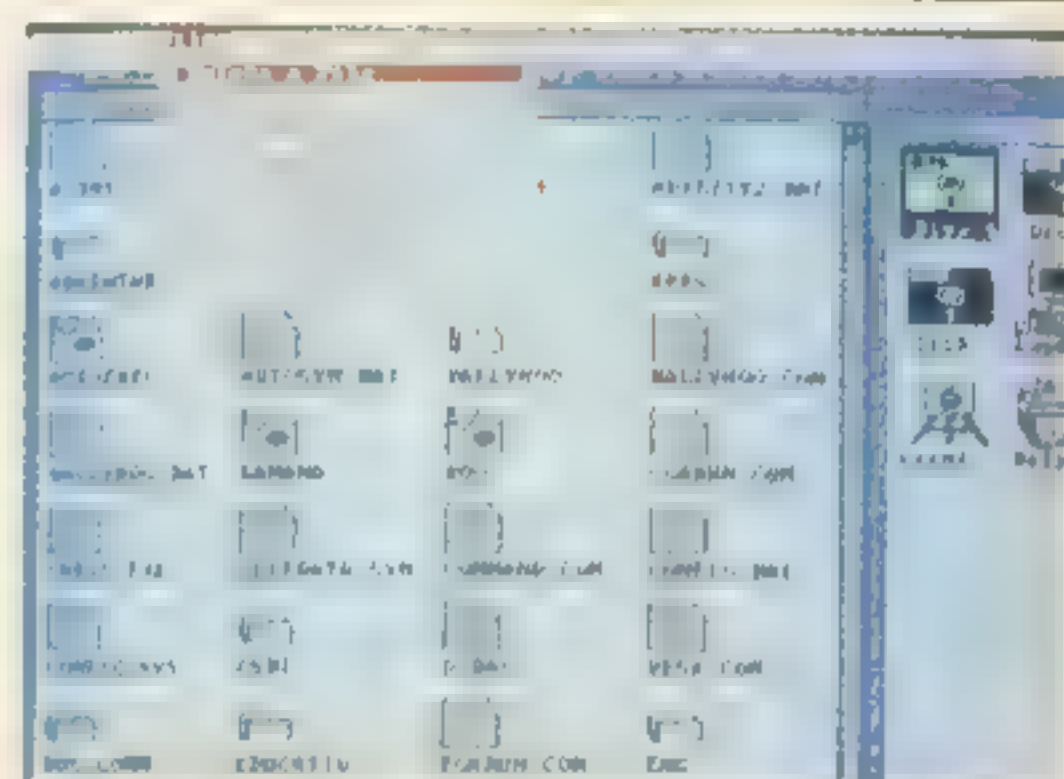
- * 120 cps draft/22 cps NLQ
- * Automatic paper loading/ejection
- * Quiet operation with below 52dB noise level

- * Standard friction/tractor feed
- * Multi-function front panel buttons
- * High resolution graphics
- * Epson FX and IBM 5152 compatible

Place your order today only at one of the three dealers selling at this really low price.



• Matrix Layout comes with a graphical interface which is similar to GEM on the Atari ST and the Mac's desktop. Pull-down menus enable you to access all of the features without having to remember difficult and obscure commands. To transform your amazing ideas into working programs, you must first design a flowchart containing all the things you'd like the program to perform. The Matrix flowchart doesn't use traditional flowcharting symbols, but a series of boxes each containing a piece of information which can be interpreted and coded directly by the program. Once you've designed the flowchart, Matrix Layout will generate code in either a ready-to-run module, or if you prefer, a text file on disk containing source in a range of popular languages.



• All normal DOS commands can be performed from the Matrix Layout desktop. By selecting and highlighting icons, files and programs can be deleted, copied and moved, and directories can be created and deleted.



• There's no paper manual with Matrix Layout. Instead, the package has a full electronic reference available at any time within the program. It will provide you with a relevant page of information for whichever part of the application you may be experiencing difficulty with. And you can include a similar manual of on-line help in your own programs.

Jumping through OOPs

A program that writes programs for you? Oops! Sounds like a mistake – but quite true. Jerry Glenwright investigates the latest in programming systems that could make learning computer languages a thing of the past...

Matrix Layout • PC £99.00 •
Matrix Software Technology (Tel.
0752 796363 • Also available for
the PS/2 range

OOPs is nothing to do with colliding with some inanimate object or breaking someone else's semi-precious porcelain figurine. The word has been adopted by the computer industry to describe the latest high-tech software packages which allow users to cobble together programs merely by drawing flowcharts – the OOPs application does the rest by writing the program for you!

Several software houses are about to launch their own OOPs applications on to the market (notably Apple's HyperCard and Borland, responsible for a large range of quality language products) but one of the first is Matrix Software Technology of Plymouth with its *Matrix Layout*, touted as being the first true computer-aided software engineering program available to the person in the street.

Features

What is OOPs? The word is an acronym for Object Orientated Programming and is a method

of using existing program modules along with flowcharts provided by the user to write full-featured programs automatically.

Matrix Layout will write error-free programs for you in a range of languages such as Turbo Pascal, Turbo C, Microsoft C and Quick BASIC. The program provides an OOPs database which holds text and picture information. By combining these cards, you are able to instruct Layout on the type of data you wish to manipulate. You can link cards over several fields and incorporate them in your program flowcharts. The cards themselves are language independent so you can choose your own favourite high level language for Layout to work with.

To generate programs is simply a matter of designing a flowchart detailing what you'd like the program to do, linking cards that you wish to use from the card file and from there, Layout will generate programs which are error free and ready to run, or if you prefer, will place text files on to a disk which contain source code written in one of the high-level languages mentioned above.

You can provide your programs with on-line help windows using *HelpMaker* – one of Layout's modules – which are sensitive to the position of the user in the application, i.e. the correct page of help text is placed on the screen automatically wherever the user is in the program.



• Matrix Layout is one of the first OOPs packages to be made available at a reasonable cost to the person-in-the-street. But other notable computer language software houses are promising their own versions for the IBM-PC and compatibles and the high-end home computers such as the Atari ST and Amiga.

AT MICRONET WE'RE REALLY TALKING!

FREE MODEM
with annual subscription or
£11.45 HALF PRICE 1st quarter

With Micronet you can turn your computer into a communications terminal that will download free software, access up-to-the minute computing information, play exciting multi-user games, talk to other people (and computers) and a lot more. And if you join before June 30th 1989 (offer extended) you can get your first quarter's subscription at half price – just £11.45!



FREE SOFTWARE

On Micronet you can browse through an extensive software library of free programs, select one and then download it.

We now have software for all popular machines, from the Spectrum to PC compatibles, including the Atari ST and the Amiga.



INFORMATION

Micronet is also a computer magazine. Our computer news area is updated every day, so there's no better way to stay up-to-date, and our software reviews and features for all popular micros mean Micronet members are

always better informed.

Add to this Prestel's massive database and you'll have all the facts at your fingertips.



ENTERTAINMENT

Micronet is not just informative, it's also a lot of fun! As a member you'll have access to a range of games, including the UK's most popular multi-user game, Shades, where the action is live and so are your opponents!



COMMUNICATIONS

Join Micronet and use your computer to communicate with thousands of other users. From electronic mail, telex and fax to chatlines and teleconferencing, Micronet lets you do the talking.

Low Cost

Now, not only can you get your first quarter's membership for £11.45, but using Micronet starts at just 50p an hour – and that includes telephone charges!

Wherever you are, Micronet is just a local phone call away.

If you need a modem, we'll even give you one free if you choose instead to take out a year's subscription in advance.

Just phone our Sales Desk on 01-208 0722 or clip the coupon today for more information and a free brochure.

Join Micronet, and get talking!

FREE DEMONSTRATION

If you have access to a modem (1200/75 baud) and viewdata communications software you can see a free demonstration of Micronet. Just Dial 021-618 1111 and use the ID 1111111111 and password 4444.

You can look up a local telephone number once on-line.

Return to: Micronet, Telemap Group Ltd, Unit 10,
Oxgate Lane, Oxgate Centre, London NW2

Name: _____

Address: _____

Tel. No.: _____

Age: _____

Machine Type: _____



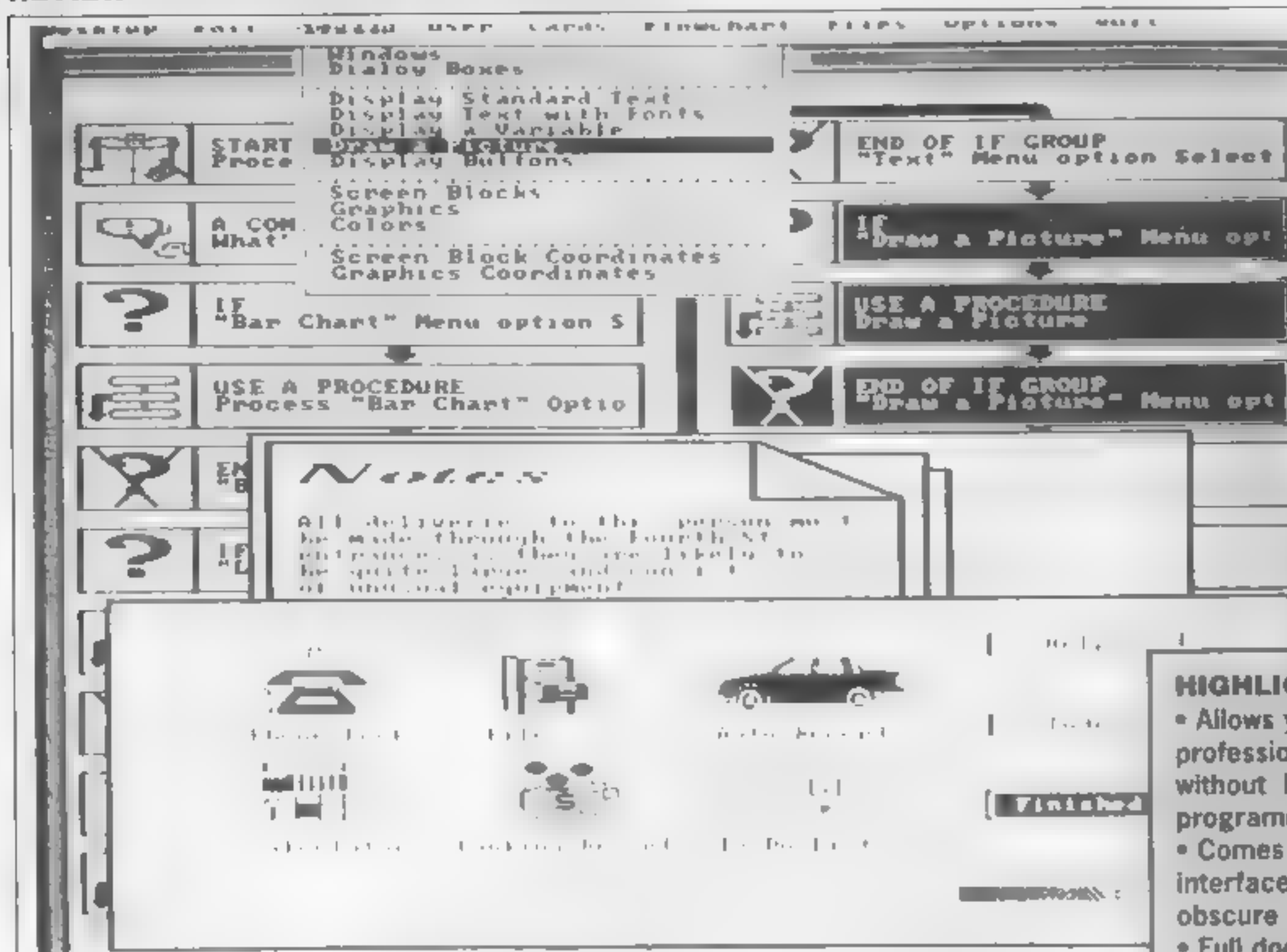
NCE/SP/080689

MICRONET

Price includes 1st quarter residential subscription by direct debit only (normally £23) and does not include hardware or software. Minimum subscription period 1 year. Offer available in the UK only to new members. Free modem available to first time UK subscribers while stocks last. Free modem and half price subscription offers are separate and not available together.

APPLICATIONS

REVIEW



• Matrix Layout has a built-in card file which allows you to store and index text and picture information. You can link cards together over several fields and then merge them into programs created by the application. You can also use the card file with the Helpmate feature. By including a series of help pages which can be accessed from within your program, the card file information can be made available to the user. Pictures can be displayed on-screen and the general effect looks very professional.

manual holds not only text, but graphics too, illustrating many of the more difficult to understand features of the program. The manual itself was written using HelpMaker and nicely demonstrates what can be done with the help feature.

Verdict

OOPs would seem to be the way forward for the ordinary computer user with program ideas but lacking the programming skills necessary to implement those ideas. Matrix Layout is a fully-featured OOPs package which provides you with everything you need to turn those ideas into reality.

But remember, you do need ideas. Programs will write themselves, but you need to offer 'inspiration' in the form of flowcharts before you'll have anything usable. If you have those ideas, or you're just interested in OOPs and Layout, then Matrix can provide you with a demonstration video for just £2.95 which can be deducted from the purchase price if you decide to buy the product.

★★★★

HIGHLIGHTS

- Allows you even you to create professional-looking programs without knowledge of a programming language
- Comes with a GEM-like user interface, meaning there's no obscure commands to remember
- Full documentation available on-line at all times

DRAWBACKS

- You need ideas!
- You need to have at least some knowledge of the logical steps a program takes in order to write the flowchart
- You need to have a PC or compatible - OOPs systems are simply not available for 8-bit machines

User interface

If you've ever watched with envy as ST and Macintosh owners flip around icons, folders and files on their monitors quickly and easily whilst you had to remember arcane and obscure command sequences to do all but the most simple of tasks on your PC... then Layout has the answer for you. It comes with a GEM-like interface which allows you to sort and manipulate files and directories just by selecting and highlighting icons on-screen. No need to remember commands or leaf through weighty

texts. All DOS operations can be performed from this 'desktop'.

Documentation

Layout is provided without any documentation - paper documentation, that is - for the complete reference manual is held in electronic form and is available for you at the touch of a button, literally. The

NEEDFORWARD LTD

Tel: 0242 227746/227745

**Shareware...Maintenance/Repair...Programming...Technical Writing...Hardware...
...Software...Components...Office Supplies/Furniture...**

High quality blank disks - 5 1/4" 10 - £5. 20 - £9. 50 - £20. 100 - £37. 500 - £165 3 1/2" 10 - £9. 20 - £17 50 - £40. 100 - £78. 500 - £380.

Subscribe to ForeGroup, a user group which entitles you large discounts on all disks and provides a bi-monthly magazine which gives news and reviews on Shareware, Public Domain, Hardware, Technical Problems, plus a competition every issue. Annual membership £13.50

All disks have been tested, and checked virus free. 5 1/4" Disks £2.00 3 1/2" Disks £3.00

| | | |
|--|---|---|
| BUSINESS Freeway Payroll Freeway Cashbook Lightyear - a business optimiser system PC Mail Bibliography of Business Ethics and Morals Front Office Mass Appeal Form Generator plus label print programme | LANGUAGES Small C Modular 2 Compiler V2.0A Modular tutor Pascal tutor Lisp-Xisp PD Prolog Mystic Pascal A86/D86 8080 macro assembler plus debugger | COMMERCIAL PACKAGE SUPPORT UTILITIES Wordstar - aids to improve usage DBase III - screen generator, utilities, fact copy Printmaster - includes > 100 pictures Printmaster Icons - 11 disks of 2000 PM icons 1-2-3 - 23 financial works files with macros |
| EDUCATIONAL Fastype - typing tutor French tutor German tutor Flash Cards Secondary School - range of subjects | GAMES Dungeon Dragons PC Chess Scrabble Arcade Pinball Startrek | INTERESTS Yale star catalogue - 3 disk technical database inc. bright stars Family History - 11 disk on genealogy NEC database - 2 disk elect. ref. for design eng. Astrology/Horoscope Planets Electronics - filter design, multivibrators etc. |

PLUS HUNDREDS MORE

Our own package, ForePack is now on sale, it includes:

ForeWord - Menu driven Wordprocessor
 Calc - Spreadsheet
 Talk - Comms
 User - Information Organiser/Calendar
 Base - Database
 Disk - Disk Management

ForePack - features individual and system macros, virus recognition, mouse/keyboard driven, pull down menus, complete on screen help

You don't need any other package. Sold individually, in sets, or as Pack.

£30.00 (ea.), £49.00 (2),
 £89.00 (4), £129.00 (6)

BORLAND Turbo Lightning, Spell checker (80,000 wd) £60.00
 Sold with any of ForePack at £43

HAVE YOU GOT YOUR SUMS RIGHT! Break the Price Barrier

PB1 Commodore Amiga 500 - disk drive & modulator -
 RRP £399.99 Our Price £360.00
 PB2 Four Games - Photon Paint and Joystick -
 RRP £179.80 Our Price £44.50
 PB3 Ten Games - Photon Paint and Joystick -
 RRP £304.40 Our Price £82.50
 PB4 = PB1+PB2 Total RRP £579.79 Our Price £385.50 You Save £229.04
 PB5 = PB1+PB3 Total RRP £704.39 Our Price £399.00 You Save £305.39



All Cheques/P.O.'s made payable to:
NEEDFORWARD LTD (Dept CE)
52 Pennsylvania Avenue,
HestersWay, Cheltenham. GL51 7JP
 Please add £1.50 p&p to all orders



Question Time

WIN £100 OF SOFTWARE!

Way back in November last year, when we launched New Computer Express, we hoped it would establish itself as the best, brightest and biggest-selling computer weekly around. Well, it achieved that in the first week, and has done so ever since.

But are we going to sit back, rest on our laurels and stick our heads in the sand? No. We want to make Express even better – and this is where YOU can help.

The more we know about our readers, the more we can find the news and features that you want to read. Fill in the questionnaire below and tell us what you think of us: the good, the bad and the corrupted.

If you're on the run from the Inland Revenue, about to do a moonlight flit or just a shy retiring type, you're welcome to leave out your name and address.

But you could be the lucky winner of £100 of mystery software for your machine, free, gratis and for nothing – except a couple of minutes of your time. We'll be sending just that to a questionnaire drawn at random from the editorial baseball cap on July 1st (though we'll welcome questionnaires after that date).

And to two not quite so lucky others, we'll bung £30 of software in the post too. Not bad eh?

Send your completed questionnaires to:

Questionnaire, New Computer Express,
4 Queen Street, Bath, Avon, BA1 1EJ

Name.....

Address.....

Occupation.....

1. How old are you?

☐ Under 16 ☐ 17-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ Over 54

2. Which computer(s) do you own?

☐ PC (please specify make).....
☐ Amiga ☐ Atari ST ☐ PCW
☐ CPC ☐ Spectrum ☐ CBM64/128

☐ Atari 8-bit ☐ BBC ☐ MSX ☐ QL

☐ Archimedes ☐ Z88

☐ Sega ☐ Nintendo

Others.....

3. ■ you intend buying a computer (or console) in the next 12 months, which machines are you considering?

.....
.....
.....
.....
.....

4. Do you use your computer for

☐ Leisure and entertainment only

☐ Serious usage only

☐ Both leisure and serious

5. Approximately how many hours a week do you spend using your machine?

☐ Less than 2 hours ☐ 2-5 hours ☐ 5-10 hours ☐ 10-15 hours ☐ 15-20 hours ☐ 20-25 hours ☐ 25-30 hours ☐ Over 30 hours

6. Do you use a computer at work?

☐ Never

☐ Sometimes

☐ A lot of the time

7. In the last two months how much have you spent on:

Computer hardware

Entertainment Software

Serious Software.....

8. What proportion of this expenditure has been through mail order?

☐ None ☐ 1%-25% ☐ 25%-50%
☐ 50-75% ☐ 75-99% ☐ All

9. In the last two months which three pieces of software have been in

most common use on your machine? (in descending order)

.....
.....
.....

10. How often have you used the Express voucher scheme?

☐ Never ☐ Once ☐ 2-3 times

☐ 4-6 times ☐ More than 6 times

11. How regularly do you buy Express?

☐ Only very occasionally ☐ About once a month ☐ Twice a month ☐ Three times a month ☐ Every week

12. When did you first come across the magazine? (It was launched last November)

☐ At launch ☐ Around Christmas

☐ Early this year ☐ Only recently

13. How did you first get to hear about Express?

☐ Advert in a newspaper ☐ Advert in a magazine ☐ Word of mouth ☐ Saw it on the news-stand ☐ Other

14. What are your main reasons for buying Express? – please number up to five in order of importance. For example if your main reasons for buying Express are the adverts, the news and the letters in that order write 1 next to Adverts, 2 next to News and 3 next to Letters.

☐ The cover feature

☐ News

☐ Hardware Reviews

☐ Games Reviews

☐ Applications Reviews

☐ Express Mail (letters)

☐ Tech Tips

☐ The magazine's humour

☐ The column(s) for your machine(s)

☐ Adverts (eg. to hunt for bargains)

☐ Small ads

☐ Job adverts

☐ Express Vouchers

☐ Other

15. What do you dislike about Express – and how can the magazine be improved?

Thanks for your trouble – all your comments will be read carefully and we'll do our best to keep everybody happy!



JAILBREAK (Q): Konami coin-op conversion, memorable for being awful. After the game nose-dived, Konami fielded conversions back to Ocean.

JAZZ (INT): Developed by Lotus for the Apple Macintosh, this integrated software application includes modules for word processing, communications, spreadsheet calculations and graphics. Popular amongst Mac business users in the States, the package remains obscure in the UK.

JETPACK (Q): Classic Spectrum game from Ultimate which was a cross between platform and shoot-'em-up.

JET-SET WILLY (Q): Matthew Smith's follow up to *Manic Miner*. 'Willy' features in the all-time top 10 of bug ridden games.

JOBS, STEVE (P): Extravagant, flamboyant and visionary co-founder of Apple, and self-styled 'inventor of the personal computer'. He formed Apple in 1975 with Steve Wozniak, with the aim of making computers personal rather than the large-scale IBM mainframe machines.

They succeeded beyond their wildest expectations. He was a millionaire at 23 and valued at \$200 million at 25. His excesses (such as buying all the advertising space in *Time* when the Mac was launched, and putting a full-page ad in the *Wall Street Journal* declaring that he and Wozniak invented the personal computer) caused friction and he resigned from Apple in 1985. Now 33, he is working on a more ambitious project, the Next computer.

See **Apple, Next**.



• Steve Jobs: Millionaire co-founder of Apple

JOYSTICK (T): A movable stick which has, hidden inside a case its base, a series of switches. Moving the stick in any of the compass directions causes the switches to be tripped, thereby relating directional information to the computer. In this way, the computer's cursor or games characters can be moved around on-screen. The joystick enhances gameplay by providing improved response speeds over the keyboard, but also has its serious uses when coupled with applications performing computer aided design.

JUSTIFICATION (T): When using a word processor such as *WordStar*, *Protext* or *Locoscript*, it is possible to have all the text in a file have straight margins on both sides. Each edge is of exactly the same length and the right hand edge forms a smooth line flush with the width of the column. This feature can be achieved using the crude method of inserting extra spaces between words or pad out the lines. An alternative is to use 'microspacing'. Using this method, fractions of the standard one character size are used to pad the line between words and characters. This method of padding lines with fractional spaces is not as obvious as inserting whole spaces.

JUPITER CANTAB (CO.): Formed in the early '80s, the company had one stab at the burgeoning micro market by releasing a home computer with the distinction of having Forth as its built-in language. See **Jupiter Ace**.

JUPITER ACE (C): The home micro released by Jupiter Cantab in the first half of 1984. The machine was approximately the size and shape of the ZX81 but unlike that machine, remained obscure due to its employing Forth as the built-in language. The machine is today unheard of outside alternative micro shows and train-spotter gatherings.

JUGGLER (Q): Incredible Amiga demo featuring a little robot character juggling three reflective spheres, displayed in a thousand computer shop windows. The demo helped to sell the Sculpt 3-D language used to write the demo.



KATAKIS (Q): After ruffling Activision's feathers with this *R-Type* clone, US Gold was forced into suspending publishing of the game at the eleventh hour. However, it resurfaced some months later under the name *Denaris*.



• Katakis: Ill-fated *R-Type* clone pulled at the last minute following legal wrangles

KAYPRO (CO.): A range of machines designed and marketed by Non-linear Systems of Solana Beach, California. Kaypro computers were very popular at the end of the 70's. They were usually 'luggable', had two 5.25 inch disk drives, a 9 inch green screen monitor, fold-out full-size keyboard and used the CP/M operating system. When CP/M went out of fashion, so did the Kaypro.

KERNEL (OS): The very 'lowest' part of a computer's operating system. If you imagine an onion to be the operating system of a computer, then the outermost skin would represent the part of the OS that the user sees and interacts with. The inner-most part of the onion would represent the kernel, responsible for maintaining the hardware and passing converted user instructions to the processor.

KEYPAD (T): Usually positioned to the right of the average keyboard, the



• Keypads: an extra set of numeric keys arranged calculator-style

keypad is the cluster of numeric keys set out in the style of calculator. The keypad makes entering large amounts of figures easy by placing the numbers close together and separate from the other keys.

KINGS OF CHICAGO (Q): Another in Cinemaware's series of computerised movie epics. The game is set in the Chicago of the 30s and is notable in that it requires 1Mb of RAM and 2 disk drives to be used on the Amiga! (Out soon on the ST).

KONIX (CO.) Welsh joystick manufacturer which recently hit the headlines with a revolutionary dedicated games console; the machine has - unfortunately - yet to materialise.



• Konix's new dedicated games console - yet to reach the shops

KORONIS RIFT (Q): Second in a series of state of the art, fractal based games from LucasSoft. See also **Rescue on Fractalus**.

KRYSTAL (Q): Arcade adventure which was over-hyped, under-featured and approximately one year too late.

KUMA (CO.): Software house responsible for a wealth of serious software mainly aimed at the Atari ST and all prefixed with the letter 'K' i.e. *K-Roget* and *K-Spread*.

Track Computer Systems

Track Specialise In Hard Drives, Floppy Disks, Serious Software
And The Highest Degree Of Customer Care
Call Us For Service Beyond The Sale.

Amiga 500 Hard Drives

| | |
|----------------------|----------|
| Amdrive 30 Mb | £399.00 |
| Amdrive 50 Mb | £475.00 |
| Commodore A590 20Meg | £399.99 |
| Supra 20 Mb | £565.17 |
| Supra 30 Mb | £699.95 |
| Supra 60 Mb | £1199.95 |
| Impact 20 Mb | £699.20 |
| Impact 30 Mb | £745.20 |
| Impact 45 Mb | £916.20 |
| Quantum 80 Mb | £1127.76 |
| Tempest All Sizes | POA |
| Trackdrive 80Mb | £790.00 |
| Trackdrive 100Mb | £997.00 |
| Vortex 40 Meg | £573.85 |

Amiga 2000 Hard Drives

| | |
|----------------------|---------|
| Amdrive 40 Mb | £399.00 |
| Supra 20 Mb | £547.78 |
| Supra 30 Mb | £608.65 |
| Supra 60 Mb | £869.52 |
| SQ44 Removable | £999.00 |
| SQ44 Cartridge 44 Mb | £109.25 |
| Tempest All Sizes | POA |

Atari Hard Drives

| | |
|-------------------|---------|
| Supra 30 Mb | £499.95 |
| Third Coast 32 Mb | £439.00 |
| Third Coast 65 Mb | £549.00 |

Atari Hard Drives

| | |
|--------------------|----------|
| Third Coast 100 Mb | £899.00 |
| Third Coast 130 Mb | £963.00 |
| Third Coast 150 Mb | £1263.00 |
| Third Coast 240 Mb | £2179.00 |
| 150 Mb Tape Backup | £849.00 |
| Tempest All Sizes | POA |

Amiga Controllers

| | |
|--|---------|
| Amdrive Controller (inc case) | £169.95 |
| SCSI Host Controller | £179.95 |
| Twin Drive extra for use with above | £125.00 |

Atari controllers

| | |
|---------------|-----|
| Full DIY Kits | POA |
|---------------|-----|

Bare Drives

| | |
|----------------------------|------------|
| (for use with controllers) | |
| ST 506 130 Mb | £891.25 |
| SCSI 100 Mb | £833.75 |
| SCSI 200 Mb | POA |
| SCSI 350 Mb | POA |
| SCSI 500 Mb | POA |
| SCSI 930 Mb | £12,903.00 |
| SCSI 1024 Mb | POA |

(Larger Drives Available)

Any SCSI Drives Converted to
Amiga or Atari ST.

We Also Offer The Release Schedule The Latest Information On Software Release Dates For Every Make Of
Computer Updated Weekly Remember Track Put The Customer First Whatever You Require For The Amiga Or
Atari We Are Only A Phone Call Away We Even Hold Our Lines Open Until 9 pm
Dunning The Week



HOW TO ORDER TRACK PRODUCTS

Make Cheques, Postal Orders, Bankers drafts payable to Track Computer Systems

If you require to pay by Bank Giro Transfer at your own bank, please phone for details

All prices fully inclusive of postage and packing. We also offer Credit. Please phone for details

All our products are covered by a 12 Month Warranty and are fully tested prior to despatch

Free Delivery ■ UK mainland Orders despatched on clearance of cheques. For Courier Service add £7.50 per major item

PHONE TRACK ON 0773 531991, 0840 639081 24 HOURS

MANNED UNTIL 9 PM DURING THE WEEK. FAX TRACK ON 0773 768721

Track Are Recommended Computer Distributors

Track Computer Systems, Systems House, Braemar Avenue, Eastwood, Nottingham NG16 3JY

R.R.P. Track
Price

AMIGA SOFTWARE

| | | | | | | | | |
|---------------------|---------|---------|-------------------------|---------|---------|----------------------------|---------|---------|
| Director | £59.99 | £45.50 | Pro Midi Plus | £39.99 | £29.50 | Digicall | £39.99 | £29.50 |
| Director Tool Kit | £29.99 | £21.50 | Pro Sound Designer | | | DigiPaint | £39.99 | £29.50 |
| DOS 2 DOS | £39.99 | £29.50 | (Software only) | £39.99 | £29.50 | Digiview Gold | £149.99 | £125.00 |
| Draw 2000 | £224.25 | £185.00 | Pro Sound Designer | | | Digidroid | £69.99 | £50.50 |
| Excellence | £199.99 | £135.00 | (Software and Hardware) | £79.99 | £60.50 | Professional Page | £249.99 | £185.00 |
| Express Paint | £69.99 | £50.50 | Pro Video CGI | £159.99 | £134.50 | Publishers Choice | £99.99 | £72.50 |
| Facc II | £29.99 | £21.50 | Pro Video Plus | £249.99 | £185.00 | Publisher Plus | £99.99 | £72.50 |
| Fantavision | £39.99 | £29.50 | Pro Video Plus Fonts | £99.99 | £72.50 | Rock and Roll | £9.99 | £7.50 |
| Forms in Flight 2 | £119.99 | £95.50 | Professional Draw | £139.99 | £122.00 | Ruby View/Term | £99.99 | £72.50 |
| Galileo 2 | £59.99 | £45.50 | Bad | £42.95 | £34.36 | Sculpt 3D | £85.00 | £65.50 |
| Godspell 2 | £29.99 | £21.50 | Scorped Ann. 4D Prof | £368.00 | £323.84 | Sculpt 3D Animator | £129.99 | £111.50 |
| Goni 3.0 | £29.99 | £21.50 | Scorped Ann. 4D Jun | £109.00 | £87.20 | Sculpt 4D | £423.99 | £355.00 |
| Goni Button | £29.99 | £21.50 | My Paint | £39.95 | £33.95 | Seasons and Holidays | £9.99 | £7.50 |
| Hisoft Basic | £49.99 | £34.50 | C Light | £49.95 | £41.75 | Shell | £49.99 | £34.50 |
| Hot and Cool Jazz | £9.99 | £7.00 | Auto Boot 1.3 Eprom | £25.00 | £25.00 | Simp Library | £79.99 | £60.50 |
| I.F.F. Library | £79.99 | £60.50 | Cordless Mouse | £149.00 | £140.00 | Sonic | £57.50 | £39.99 |
| Impact | £63.99 | £44.50 | Print Script | £195.99 | £132.50 | Studio Font | £29.99 | £21.50 |
| Instant Music | £29.99 | £21.50 | AC/Basic | £99.99 | £79.50 | Superbase | £89.99 | £72.50 |
| Interchange | £49.99 | £39.50 | A.M.A.S. | £39.99 | £32.50 | Superbase Pro | £249.99 | £185.00 |
| Intro Cad | £59.99 | £42.50 | Adrum | £103.50 | £81.50 | TV Show | £69.99 | £50.50 |
| II Spread 2 | £79.99 | £60.50 | Animator/Images | £103.50 | £81.50 | TV Text | £69.99 | £50.50 |
| K Seka Assembler | £49.99 | £32.50 | Aquisition 1.3 | £249.99 | £150.00 | Terran (for Turbo Silver) | £19.99 | £16.50 |
| Kara Fonts | £59.99 | £45.50 | Art Parts 1 | £9.99 | £7.50 | Tool Kit | £39.99 | £29.50 |
| Kind Words 2 | £49.99 | £35.50 | Art Parts 2 | £9.99 | £7.50 | Turbo Silver | £139.99 | £115.00 |
| Lattice C Version 5 | £249.00 | £185.00 | Ashas Fonts | £59.99 | £45.50 | Video Tiller 1.1 | £110.00 | £85.50 |
| Lions Fonts | £59.99 | £45.50 | AudioMaster II | £69.99 | £50.50 | Videoscape 3D | £143.75 | £110.00 |
| M.C.C. Pascal Ver 2 | £89.99 | £69.50 | Award Maker Plus | £39.99 | £29.50 | Virus V.I.P. | £39.99 | £29.99 |
| Macro Assembler | £69.99 | £49.99 | Aztec C Developer | £179.99 | £150.00 | Wordperfect 4.1 | £229.99 | £185.00 |
| Maxiplan A500 | £99.95 | £72.50 | Aztec C Professional | £129.99 | £111.50 | X Cad | £480.00 | £350.00 |
| Maxiplan Plus | £149.99 | £109.50 | B.B.C. Emulator | £49.99 | £39.50 | X-Copy | £29.99 | £21.50 |
| Microbase | £19.99 | £13.50 | Butcher II | £29.99 | £21.50 | E-Type | £39.99 | £29.50 |
| Microfiche Filer | £79.99 | £62.50 | C Library | £79.99 | £60.50 | Day By Day | £29.99 | £21.50 |
| Microtext | £19.99 | £13.50 | Calligrapher 1.05 | £89.99 | £72.50 | Protext | £99.99 | £79.50 |
| Modeler 3D | £69.99 | £50.50 | C.L.I. Mate | £39.99 | £29.50 | GFA Basic | £84.99 | £48.50 |
| Modula II | £139.99 | £109.50 | Comic Setter | £49.99 | £39.50 | Project D | £39.99 | £29.50 |
| Music Studio | £34.99 | £24.50 | Data Retrive | £57.99 | £42.50 | Movie Setter | £69.99 | £50.50 |
| Newsletter Fonts | £29.99 | £21.50 | Deluxe Music Con. Set | £69.99 | £50.50 | Comic Setter Clip Art | | |
| On Line | £110.00 | £99.50 | Deluxe Paint II | £69.99 | £50.50 | Funny Animals, Superheroes | | |
| Organise II | £89.99 | £50.50 | Deluxe Photolab | £69.99 | £50.50 | Science Fiction | £24.99 | £18.50 |
| Photon Paint II | £89.95 | £71.96 | Deluxe Pnnt | £24.99 | £18.50 | Lights Camera, Action | £57.99 | £39.50 |
| Pixmate | £49.99 | £39.50 | Deluxe Pnnt II | £49.99 | £39.50 | B.B.S.P.C. Coms Pack | £119.99 | £96.50 |
| Power Windows 2.5 | £69.99 | £50.50 | Deluxe Productions | £139.99 | £122.00 | Mailshot Plus | £49.99 | £39.50 |
| Prism | £59.99 | £39.50 | Deluxe Video | £69.99 | £50.50 | Quarterback | £49.99 | £39.50 |
| Pro Board | £139.99 | £109.50 | Descartes | £29.99 | £21.50 | Superback | £52.50 | £39.50 |
| Pro Net | £139.99 | £109.50 | DevPak Assembler ver 2 | £259.99 | £45.50 | Studio Magic | £69.99 | £50.50 |

3.5 FLOPPY DISKS

3.5" Double Sided Density 135tpi
High quality verbatim bulk packed.

ALL DISKS ARE CERTIFIED 100% ERROR FREE

| | | | |
|-----|-----|-----|------|
| 25+ | 50+ | 75+ | 100+ |
| 89p | 88p | 81p | 80p |

H T COMPUTERS

COMMODORE PC's

| | |
|----------------------|-------|
| PC1 MONO | £300 |
| PC1 COLOUR | £400 |
| PC10 III SD MD | £499 |
| PC10 III SD CD | £655 |
| PC10 III SD EGA | £799 |
| PC10 III DD MD | £569 |
| PC10 III DD CD | £729 |
| PC10 III DD EGA | £879 |
| PC20 III HD MD | £765 |
| PC20 III HD CD | £909 |
| PC20 III HD EGA | £1055 |
| PC40 III SD VGA MONO | £1199 |
| PC40 III SD VGA COL | £1450 |
| PC40 III HD VGA MONO | £1529 |

MONO COLOUR EGA

| | | |
|--------|------|------|
| 1512SD | £369 | £449 |
| 1512DD | £449 | £549 |
| 1640SD | £469 | £549 |
| 1640DD | £529 | £619 |
| 1640HD | £699 | £799 |

VGA (mono)VGA (12")VGA (14")

| | | | |
|--------|-------|-------|-------|
| 2086SD | £549 | £679 | £890 |
| 2086HD | £869 | £799 | £845 |
| 2286DD | £919 | £899 | £1189 |
| 2286HD | £1249 | £1419 | £1599 |

PORTABLES

ZENITH - THE BEST

| | |
|-------------------------|-------|
| ZENITH SUPERSPORT 184 | £1065 |
| ZENITH 184 WITH 20MB HD | £1998 |
| ZENITH SUPERSPORT 286 | £2415 |
| ZENITH 286 WITH 40MB HD | £3019 |
| CAMBRIDGE Z88 | £199 |
| Z88 ALL IN ONE PACK | £249 |

EPSON Quality + Name

| | |
|--------------|------|
| EPSON LX800 | £165 |
| EPSON FX850 | £399 |
| EPSON FX1050 | £499 |

24 PIN - For Real Quality

| | |
|---------------------------|-------|
| EPSON LQ500 | £339 |
| EPSON LQ850 | £546 |
| EPSON LQ2550 (400 CPS!!!) | £699 |
| EPSON GQ3500 1125 | £1199 |
| HP LASERJET II | £1599 |
| QUME - POSTSCRIPT | |

HOME EQUIPMENT

| | |
|-------------------------|------|
| AMIGA 500 + MOD + GAMES | £349 |
| AMIGA + MONITOR + GAMES | £549 |
| ATARI 520STFM | £249 |
| ATARI 1040STFM | £399 |

THE NEW BBC ARCHIMEDES

| | |
|--------------------------|-----------|
| BBC A3000 | £599 |
| COLOUR MONITOR FOR A3000 | £209 |
| BBC MASTER 128 | £399 |
| SPECTRUM + AMSTRAD | £POA |
| HOME MICROS | TELEPHONE |

H T COMPUTERS LTD

1 Arlington Road, Petersham,
Richmond, Surrey. Tel: 01 948 1681

RIBBON REFRESH

RE-NEW YOUR OLD RIBBONS FOR 35P EACH
1 TIN RE-NEWS UP TO 30 RIBBONS 8.95

POWER SUPPLIES

| | |
|--------------|-------|
| Commodore 64 | 17.99 |
| Spectrum | 8.99 |

STORAGE BOXES

| | | |
|---------|-------|------|
| 40 cap | 3 1/2 | 4.10 |
| 80 cap | 3 1/2 | 6.00 |
| 50 cap | 5 1/4 | 4.10 |
| 100 cap | 5 1/4 | 6.00 |

DISK LABELS

| | |
|--------------|-----------|
| 1/2 or 5 1/4 | 99p (100) |
|--------------|-----------|

BULK DISKS

Lifetime guarantee

| |
|-------------------------------|
| 3 1/2" DSDD 85p each.(min 10) |
| 5 1/4" DSDD 25p each.(min 25) |

| | |
|---------------------------------------|-------|
| Sony Brand 3 1/2" DSDD (box of 10) | 10.99 |
|---------------------------------------|-------|

AMSOFT CF2

2.25 each

ALL PRICES INCLUDE VAT

WE SUPPLY TO
DEALERS, LOCAL AUTHORITIES, EDUCATIONAL
ESTABLISHMENTS, PLC'S
(OFFICIAL PURCHASE ORDERS WELCOME)

VOLUME DISCOUNT ON ALL ITEMS



ACCESS HOTLINE 091-5160065

H.C.L.
10A SOUTHWICK INDUSTRIAL ESTATE
SOUTHWICK
SUNDERLAND
SR5 3TX



Hard decisions

What could be better than a floppy disk? A hard one, of course! Peter Worlock explains...

A good piece of advice for owners of tape-based computers is to stay away from machines with floppy disk drives. Your illusions will be shattered; once you've experienced the joys of disk storage – much greater convenience and lightning fast loading and saving – you'll never again be happy with tapes.

If you've recently upgraded to a floppy disk-based computer, like a PC, ST or Amiga, you're no doubt smugly confirmed in your belief that floppy disks are the stuff that dreams are made of. In which case, the advice to you is to stay away from hard disks.

Hard disks are to floppies what floppies are to tapes. And even though you might find it hard to believe that there could be a similar improvement over the new-found joys of floppy disks, hard disks are it.

The advantages are clear-cut and enormous: much greater storage capacity and far faster operation. And deriving from this are other benefits which can revolutionise the way in which you use your computer.

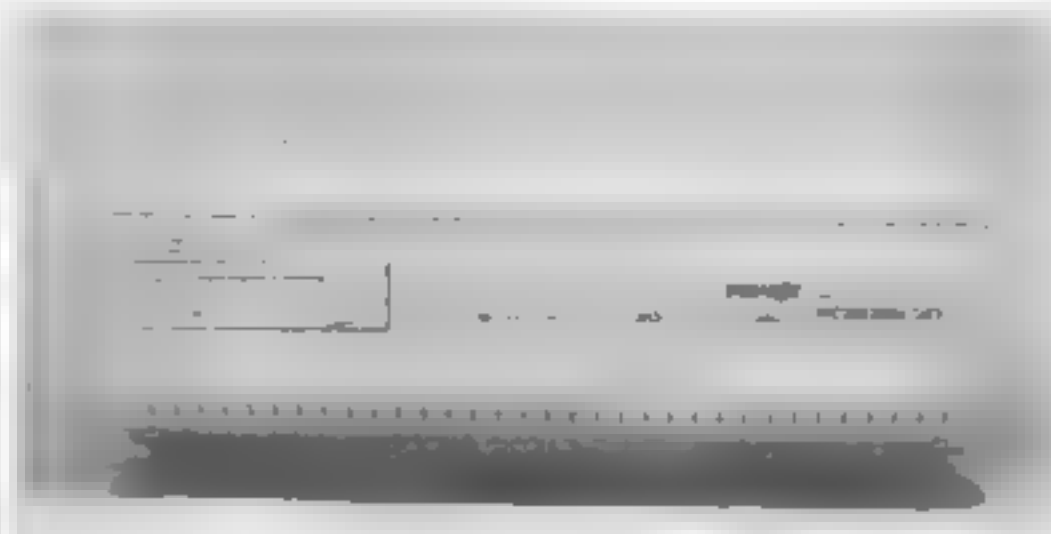
How they work

The main differences between hard disks and floppies is in construction. The floppy disk is designed to be removable whereas the hard disk is usually permanently incorporated within the drive (which is why hard disks are sometimes referred to as fixed disks).

Because the hard disk is fixed within a sealed unit, it has much finer tolerances than the floppy disk allowing it to be rotated at far greater speeds, and allowing data to be stored at higher densities. This leads directly to the two measurable improvements over floppies: data can be found more quickly, and then transferred to and from the computer at higher speeds.

Using 5.25" floppies on 8-bit computers usually provides storage capacities of between 100K and 360K although this can be stretched (as in the case of PC-compatibles) up to 1.2Mb. The newer 3.5" floppies used in the ST, Amiga, Archimedes and many of the modern PCs, provide capacities of 720K or 800K, up to 1.44Mb.

By contrast, the most common size of hard disk



• Many PCs, such as Amstrad's PC2086/30, now incorporate hard disks as standard equipment

stores 20Mb. Capacities of 30Mb, 40Mb and 60Mb are not unusual, and very-high capacity hard disks are available storing well over 100Mb. In other words, a small hard disk will hold the equivalent of 25 "high capacity" floppies, and more than 100 times as much as the older type.

But despite handling so much more data, the hard disk also manages to be faster. Speeds are usually specified in two ways: access time, and (less commonly) data transfer rates. An average hard disk will have an access time of around 10 milliseconds, which means it will usually find any given piece of data in 65 thousandths of a second. Drives with an access time of less than 30ms are now commonplace. A floppy disk might be hundreds of times slower.

Data transfer rates vary enormously, but in general a hard disk can usually load programs and data far quicker than a floppy disk drive, saving many seconds every time the disk is used. A few seconds might seem trivial, but in disk-intensive applications – like database sorting or program compilation – the extra speed of the hard disk can be invaluable.

Changing your life

Improved speed and capacity are the two obvious advantages of the hard disk, but they are not the only ones – nor even the most important.

Perhaps the single greatest benefit of a hard disk is that it allows all your programs and data to reside in one place – you no longer need to swap floppy disks between different applications, or between applications software and data.

A hard disk also makes pop-up utilities more useful. Imagine a pop-up diary or address book. Most of the usefulness vanishes if you have to switch disks to allow the pop-up to have access to its data. With a hard disk the data is always instantly available.

There are spin-off benefits from the speed of hard disks too: since the hard disk is so fast, programs can treat it like ordinary RAM memory (a process known as virtual memory). This means that extra program functions, screen displays and code modules do not have to be loaded and held in memory while the program is running. Instead they can reside on the hard disk until needed, be quickly switched in, then forgotten.

This kind of process is rarely possible with floppy disks since the time delays would render it irritating at best and totally unusable at worst.

No power without responsibility

There is a downside to hard disks (although it is far outweighed by the advantages) and that is that to get the best from them they require more organisation than floppies.

The major problem is file fragmentation. When you first begin using your hard disk, all files, and all the data in a file, are stored contiguously. But as the disk fills up, and as old files get deleted, the space gets broken up into smaller fragments.

Since all operating systems make use of all available space, this means that files get broken up with chunks stored in different places on the disk. Retrieving such data takes longer.

Utility programs to unfragment the space overcome this problem, but it does add one more chore to your computer – housekeeping.

More importantly, the need to keep regular back-ups of your hard disk contents can be a real pain. The necessity should be obvious: if a floppy disk gets corrupted you'll lose a few files and a few hours' or days' work. If your hard disk goes down you'll lose hundreds of files and perhaps months of work.

The pain is also fairly obvious. To back up a floppy disk you simply make a copy. But backing up your hard disk could require anything from 20 to 100 floppies, even making selective copies and using data compression techniques.

The painless answer is to use dedicated tape units, or laser storage systems – but these solutions run to hundreds of pounds. Using a good back-up utility program can ease some of the pain – but it's a job that mustn't be ignored.

Who can have one

Owners of PC-compatibles are best placed to take advantage of hard disks. They not only have the greatest choice – literally dozens of possibilities – but also by far the best value.

A 20Mb hard disk for the PC can be had for less than £200, a very fast 40Mb drive for around £300, and a mammoth 122Mb drive for under £700.

This could be a decisive factor in governing your choice of computer – the PC starts to look much better value than computers appearing cheaper at first glance.

For example, although both the ST and Amiga now boast hard disks (the former having much the wider choice) prices are horrific. On the ST a plain 20Mb drive will cost you £500 and up, while a similar device for the Amiga is nearer £600. For the Amiga a 60Mb drive will cost a cool £1,200 while PC owners can get a similar job for £400!

Archimedes owners are in similar financial straits – about £600 for a 20Mb model. Even the otherwise expensive Macintosh can do better with capacities of 20Mb to 60Mb and prices from £400 to £600.

If you have any other kind of computer, you'd be best advised to think about upgrading. Although there may be kits providing hard disk storage they are likely to be too problematical to be worth bothering with: the cost will certainly be many times the price of your computer, and it's odds-on that very little if any software will work with the hard disk. ●

TECHNOBABBLE

Bernoulli Box: An ingenious variation on the hard disk theme in which the disks themselves can be removed from the drive but offer only 5Mb or 10Mb capacities, providing a sort of compromise between traditional hard disks and the floppy.

Platter: A floppy disk contains one platter or disk. A hard disk drive may contain several platters, each with its own pair of read/write heads. The advantage of multi-platter drives is that data can be accessed faster than on a larger, single platter. The disadvantage is that multiple platters multiply the cost.

SCSI: A type of interface, SCSI (pronounced "scuzzy") stands for Small Computer Systems Interface. It is

used for many non-PC hard disks, including models for the ST, Amiga and Macintosh. SCSI drives are not interchangeable with standard PC drives, each requiring a different kind of controller.

Winchester: Alternative name for hard disks (allegedly because the first IBM hard disks were designated 20/20 – the same as the famous Wild West rifle).

Hardcards: A type of hard disk in which the drive mechanism and controller are contained on a standard expansion board. These are almost entirely confined to PC-compatibles. The advantages are that they are cheaper (since they don't require cases, etc) and are usually a shade faster than similar, external drives.



I think therefore I HAM

One of the many paint packages out on the Amiga, Photon Paint 2.0 is one of the few to utilise the Amiga's 4096-colour HAM graphics mode. Rik Haynes sees whether it HAMmers home this advantage...

PHOTON PAINT 2.0 • Paint and Animation package • **AMIGA** (At least 1Mb of RAM recommended) • £89.95 (£45 upgrade offer available to owners of Photon Paint 1.0. Further details on 0480 496497) • **PUBLISHED BY MICROILLUSIONS, USA** • All products mentioned in this review available from Amiga Centre Scotland on 031 557 4242

If you've ever digitised or ray traced a picture, you've probably created an image which is fair, but which needs a little tweak here and there to produce a masterpiece. Well Photon Paint can do just that, and more, as it offers you the chance to manipulate a HAM picture in a wide variety of ways.

Features

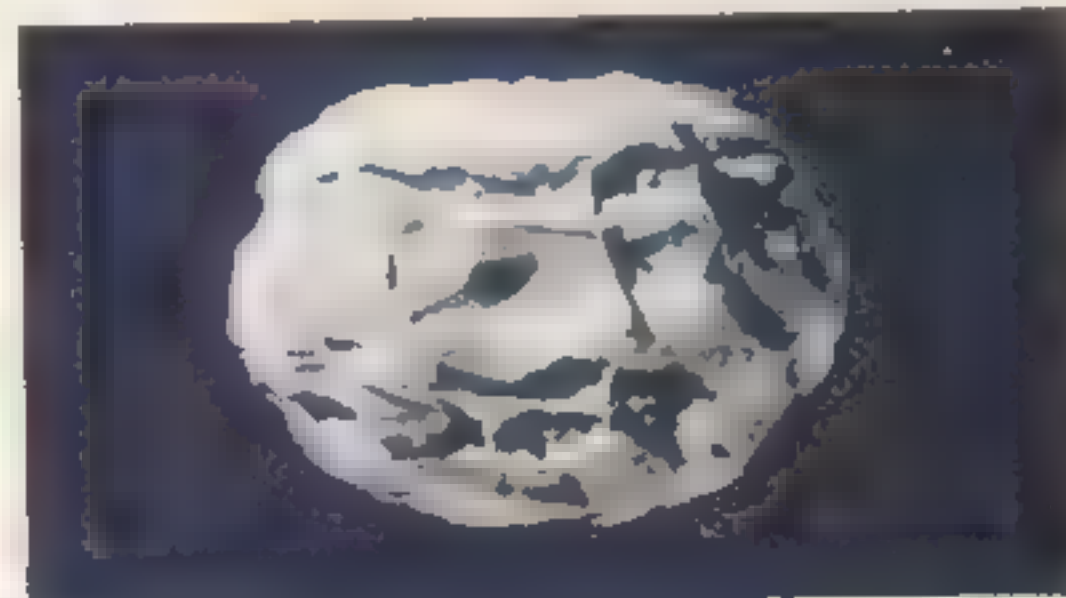
As well as containing the standard paint package functions such as draw, fill and magnify, Photon Paint incorporates many sophisticated brush functions ranging from tilt, twist and adjustable transparency to surface and contour mapping, and shadowing with adjustable size and offset. Also included is an unimpressive animate facility, which seems to require at least 2Mb of RAM to run properly.

User Interface

Photon Paint's control is like most other paint packages, via menu and icon options. If you're using a standard unexpanded Amiga A500 you'll come across frustration, as every new function you access will have to be loaded from the program disk, as there's not enough memory on-board to load all the functions in at once. Even owners of 1Mb decks will find difficulty in using



All pictures accompanying this review are public domain pictures showing off the Amiga's impressive HAM graphics mode. Further details from 17 Bit Software on 0532 420043 or George Thompson Services on 0770 82234



TECHNOBABBLE

HAM

HAM (Hold And Modify) is an Amiga graphics mode that produces 4,096 colours simultaneously on-screen.

And there's more...

In order to get the most out of HAM, here is a list of recommended optional extra products to use in conjunction with Photon Paint:

SCULPT 3-D • Ray Tracing • £85 • **PUBLISHED BY BYTE BY BYTE, USA**

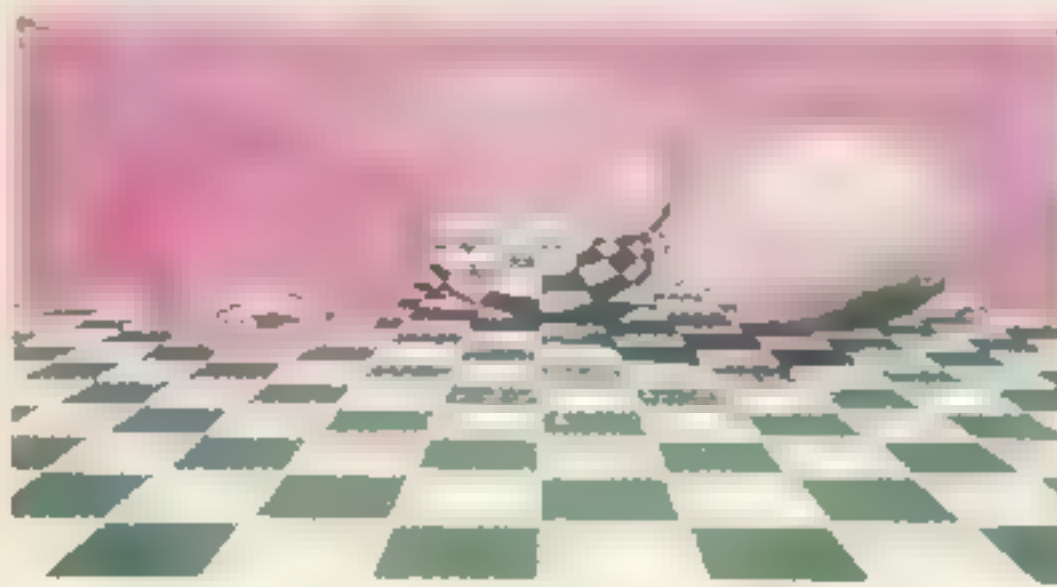
Probably the best ray trace program out the Amiga. Sculpt 3-D allows you to design 3D objects and scenes using

all for the Amiga's graphics modes

C-LIGHT • Ray Tracing and Animation • £49.95 • **DEVELOPED BY PETERSEN ENTERPRISES, USA** • **DISTRIBUTED IN UK BY ARTRONIC SYSTEMS** ON 0423 525325
C-Light (reviewed in Express 29) is one of the cheapest ways into ray tracing and animation on the Amiga.

DIGI-VIEW GOLD • Video Digitiser • £129.95 • **PUBLISHED BY NEWTEK, USA**

A combination of hardware and software, Digi-View Gold lets you grab a real-life image using a video camera. Once grabbed, the image can be manipulated with a paint package such as Photon Paint. Further information on video digitisers can be obtained from Express 17.



memory-hungry functions such as the 'animate' command.

Operation execution ranges from fair to sub-tortoise speeds, with some of the brush functions taking an inordinately long time to work.

What else is available?

DELUXE PAINT III • Paint and Animation package • £79.99 • PUBLISHED BY ELECTRONIC ARTS ON 0753 46465

Superior in every aspect to *Photon Paint 2.0* except it doesn't support HAM - *Deluxe Paint III* (reviewed in *Express 20*) is the paint and animation package for the Amiga.

DIGI-PAINT 1.0 • Paint • £39.95 • PUBLISHED BY NEWTEK, USA

The first program to utilise HAM, *Digi-Paint 1.0* is starting to look its age, although a more advanced Version 3.0 (wonder what happened to 2.0?) is due for imminent UK release.

PRISM! • Paint • £Price Unavailable • PUBLISHED BY IMPULSE, USA

PRISM!'s user unfriendliness and lack of features make it possibly the worst HAM package around.



Documentation

The ring-bound "user friendly" manual is a sickeningly typical American affair, taking you through every function in a "as it appears on the menu bar" manner. It lacks an index, but includes tutorials designed to help beginners, plus information on *Photon Paint*'s file formats which programmers may find useful.

Verdict

There's little competition in the HAM paint program market, so saying *Photon Paint* is the



best doesn't mean that much. Owners of a standard 512K Amiga A500 can just about forget *Photon Paint*, as you have to continually swap disks when using the program due to lack of memory. Even 1Mb'ers will find themselves running out of memory with alarming regularity.

Deluxe Paint III is a far superior paint and animation package, but if you really need to draw in HAM mode, there's nothing better than *Photon Paint* available at present. It's a pity about the author though: Heidi Turnipseed? You've got to be kidding!

★ ★ ★ ★

Photon torpedo does

Photon Paint 2.0 is supported by a number of other related products:

PHOTON VIDEO: CEL ANIMATOR • £99.95 • PUBLISHED BY MICROILLUSIONS, USA

Allows you to create "computer movies" including pencil testing and primitive drawing and sound capabilities.

PHOTON VIDEO: TRANSPORT

CONTROLLER • £299.95 •

PUBLISHED BY MICROILLUSIONS, USA

Used in conjunction with a paint or animation package to record animation sequences using both frame-by-frame and segment recording techniques.

PHOTON VIDEO: EDIT DECISION LIST

PROCESSOR • £399.95 • PUBLISHED BY MICROILLUSIONS, USA

Should only appeal to semi-professionals wanting more efficiency in this time-critical aspect of video editing.

PHOTON PAINT 2.0: EXPANSION DISKS •

£24.95 • PUBLISHED BY MICROILLUSIONS, USA. An utter waste of disk space this one, as it's just a collection of digitised wood and marble surfaces. Wow!

FUTUREPLACE COMPUTERS

✓ **AMIGA**

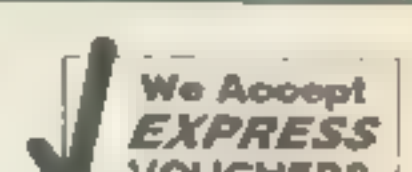
TELEPHONE: 01-692 8700

✓ **ATARI**

12 Loampit Hill
Lewisham
London
SE13 7SW



**ATARI ST & AMIGA OWNERS WHY PAY TOP PRICES
ALL GAMES SOFTWARE AT 30% DISCOUNT**



| EXAMPLE PRICES | ST |
|-------------------|-------|
| Millenium 2.2 | 17.50 |
| Robocop | 14.00 |
| Silk Worm | 14.00 |
| Microprose Soccer | 17.50 |
| Kick Off | 14.00 |
| Voyager | 14.00 |
| 3D Pool | 14.00 |
| Airborne Ranger | 17.50 |
| Falcon | 17.50 |
| LED Storm | 14.00 |
| Archipelagos | 17.50 |
| S.T.O.S. | 21.00 |

| | |
|----------------------|---------------------------|
| 3 1/2 | DOUBLE SIDED DISKS |
| | DOUBLE DENSITY |
| | 135 TPI GUARANTEED |
| | Price |
| 10 | £8.90 |
| 25 | £22.00 |
| 50 | £43.00 |
| 100 | £84.00 |
| Please add £1.50 P&P | |

DRAGON'S LAIR £31.50

Discount Chart

| RRP | OUR PRICE |
|--------|-----------|
| £12.99 | £9.00 |
| £14.99 | £10.50 |
| £15.95 | £11.00 |
| £16.95 | £12.00 |
| £17.95 | £12.50 |
| £19.99 | £14.00 |
| £22.95 | £16.00 |
| £24.95 | £17.50 |
| £29.99 | £21.00 |

| | |
|---|--------|
| Atari 520 Power Pack | 369.00 |
| Atari 1040 Professional Pack | 479.00 |
| Atari Super Pack | 349.00 |
| Amiga 500 + Modulator | 369.00 |
| Star LC10 Printer | 199.00 |
| Star LC Colour Printer | 245.00 |
| Citizen 120D Printer Parallel Interface | 138.00 |
| Citizen 180E Printer Parallel Interface | 159.00 |

| | |
|----------------------|--------|
| Atari Mouse Extender | 5.95 |
| Atari To Scart Lead | 14.99 |
| Mouse Mat | 4.99 |
| Amiga Cumana Drive | 99.99 |
| Amiga 1 meg Upgrade | 139.00 |
| 100 Cap Disk Box | 9.95 |
| 50 Cap Disk Box | 7.50 |

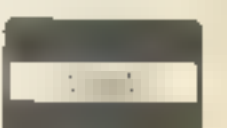
Shop Hours Monday to Friday 10am - 6pm
Saturday 9am - 6pm



CREDIT CARD HOTLINE 01-692 8700

ACCESS VISA DINERS CLUB AMERICAN EXPRESS

Please add £1.50 P&P on all orders under £75. All prices include VAT. CWO to Futureplace Ltd.
Also Available to order MOBILE PHONES and FAX MACHINES



SUMMER SPECIALS**TRILOGIC****ALL PRICES INC VAT**

| | |
|--|----------|
| AMIGA A500 + free TV MODULATOR + MOUSE + AMIGA BASIC + WORKBENCH 1.3 & MANUALS | £359.99 |
| AMIGA A500 + FREE TV MODULATOR + MOUSE, WORKBENCH 1.3 + £230 OF GAMES SOFTWARE .. | £389.99 |
| AMIGA B2000, 8833 MONITOR, XT BRIDGE BOARD + 5.25" DRIVE + 20Mb HARD DISK+ DOS 3.2 | £1469.99 |
| THOMPSON 12" RGB & VIDEO MONITOR FOR AMIGA/ST/C64/128 ETC 0.41MM DOT PITCH +LEAD | £159.99 |
| PHILIPS CM8833 RGB / VIDEO STEREO MONITOR + LEAD, MEDIUM RES, 0.41MM DOT PITCH | £219.99 |
| PHILIPS PRO8CM852 HIRES RGB MONITOR + LEAD. 0.39MM DOT PITCH, MONO SOUND | £269.99 |
| VISION 4200 RGB MED RES MONITOR, MONO SOUND. AMIGA & ST COMPATIBLE + LEAD | £209.99 |
| AMSTRAD DMP3160 PARALLEL DOT MATRIX PRINTER & LEAD 160 CPS DRAFT, 40CPS NLQ | £129.99 |
| CITIZEN 120D PARALLEL PRINTER & LEAD (IMPROVED 180E = £169.99) | £135.99 |
| STAR LC10 (NX1000 EURO BADGED VERSION) FOR CBM 64 & 128 (STAR LC10 PARALLEL £199.99) ... | £184.99 |
| AMSTRAD PC1512 SINGLE DRIVE MONO WITH MOUSE, GEM DESKTOP + DOS 3.2 ETC | £425.99 |
| AMSTRAD PC1512 SINGLE DRIVE COLOUR (CGA) WITH MOUSE , GEM DESKTOP + DOS 3.2 ETC | £535.99 |

SPECIAL PRICES QUOTED ABOVE ARE FOR LIMITED PERIOD.**AMIGA EXTERNAL DRIVE**

880K FORMATTED + THROUGH PORT & SWITCH
LOW POWER CONSUMPTION, QUIET & RELIABLE.
ONLY £79.99 UK MADE

REPLACEMENT INTERNAL DRIVE FOR AMIGA £77.99
CUMANA CAX354 3.5" 880K AMIGA DRIVE £94.99
CUMANA ATARI 3.5" 1Mb DRIVE £107.99
OC118N 51/4" DRIVE FOR C64 & 128 £118.99
HIGHLY COMPATIBLE, WITH DEVICE SELECT SWITCH
SEPARATE MAINS POWER UNIT.

SONY DISK BARGAINS

SONY 3.5" DS/DD DISKS PER 10 £12.99
SONY 3.5" DS/DD DISKS PER 25 £28.49
SONY 3.5" DS/DD DISKS PER 50 £55.99
SONY 3.5" DS/DD DISKS PER 100 £100.00

AMIGA ADD-ONS

TRILOGIC MIDI INTERFACE 1 £29.99
TRILOGIC MIDI INTERFACE 2 £34.99

MODEM V21/23 Demon II £91.94
DIGIVIEW GOLD Video Digitiser £129.99
VIDEO CAMERA B/W £219.99
DIGIPIC FRAME GRABBER £249.95
MINIGEN Genlock £109.99
GENLOCK 8802 £299.99

AMIGA MINIAMP STEREO SYSTEM £19.99
AMIGA MINIAMP4 STEREO SYTEM £34.99
AMIGA MONO SOUND DIGITISER £27.99
AMIGA STEREO SOUND DIGITISER £37.99
Public Domain Disk for above £4.99
AMIGA AUTOBOOT HARD DRIVE 40 Meg. £599.99
AMIGA 2000 XT Bridgeboard MS DOS 3.2 £599.99
AMIGA BBC Emulator & lead £59.99

CARRIAGE ON ABOVE £3.50 PER ORDER. NEXT DAY DELIVERY £6.99

HARD DISK FOR A500**AMDRIVE HARD DISK FOR AMIGA**

30Mb FORMATTED, SCSI INTERFACE &
POWER SUPPLY IN ONE UNIT. Supplied
with workbench 1.3, utility / boot disk.

28mSEC ACCESS TIME. UK MADE

LOW PRICE - £399.00 INC VAT

50Mb VERSION ALSO AVAILABLE

AMIGA LEADS & ACCESSORIES

AL1 TO SCART LEAD £9.99
AL2 FERGUSON £9.99
AL4 HITACHI/GRANADA £9.99
AL11 MULTISYNC MONITOR £9.99
AMP1 A500 PARALLEL PRINTER 1.5M £6.99
AMP2 A500 PARALLEL PRINTER 3M £9.99

RS1 A500RS232 PRINTER CABLE 1.5M £10.99
RS5 A500 / A500 NULL MODEM CABLE £7.99
RS6 A500 MODEM CABLE 1.5M £10.99
AEL1 AMIGA 64 EMULATOR LEAD £7.99
BEL1 BBC AMIGA EMULATOR LEAD £7.99
DJA1 MOUSE JOYSTICK SWITCHER £10.99
ADE3 EXTERNAL DRIVE SWITCH £8.99

NEW - MONITOR SHARER. ENABLES 2
COMPUTERS EG AMIGA & ST TO SHARE ONE
MONITOR WITH SCART SOCKET £15.99
MOUSEMAT - NON SLIP FELT TYPE £4.99

MANY OTHER LEADS AVAILABLE SEE OUR
CATALOGUE OR PLEASE ENQUIRE.

SCHNEIDER PCS

EURO PC MONO £449.9
9 EURO PC COLOUR £629.9
9 HARD DISK 20meg £343.8
5 EXTERNAL 5.25" DRIVE £129.9

Prices include monitors. Single 720k
drive, 9.54 MHz clock Dos 3.3 PLUS
MICROSOFTWORKS - An excellent
integrated wordprocessor/database/
spreadsheet/communications etc

*** SPECIAL OFFER.

FREE SCHNEIDER MOUSE WITH ANY
EURO PC + HARD DISK + STAR OR
CITIZEN PRINTER.

AMIGA BOOKS

AMIGA DOS MANUAL (Bantam) £22.95
AMIGA MACHINE LANGUAGE (Abacus) £14.95
AMIGA TRICKS & TIPS (Abacus) £14.95
AMIGA DISK INSIDEOUT (Abacus) £27.95
AMIGA PROGRAMMERS HANDBOOK £24.95

BUSINESS SOFTWARE

KIND WORDS (wordprocessor) £49.99
PUBLISHERS CHOICE (DTP) £99.99
PAGE SETTER £79.99
SMALL BUSINESS ACCOUNTS £80.44
SUPERBASE PERSONAL £59.95
SUPERBASE PERSONAL 2 £99.99
SUPERBASE PROFESSIONAL £249.95
WORKBENCH 1.3 £19.99
PROJECT D (ultimate Amiga copier) £39.99

WE ACCEPT
EXPRESS
VOUCHERS

PLEASE PHONE FOR
FREE CATALOGUE..
CALLERS WELCOME

HOW TO ORDER:- HOTLINE FOR ACCESS & VISA ORDERS. OR SEND CHEQUE/P.O. Please add 75p postage
to orders under £15.00. Optional EXPRESS DELIVERY £1.99. Insured carriage on computers, printers, disk drives &
monitors £3.50. Optional COURIER DELIVERY £6.99. Books add £2.00 postage. order.

**TRILOGIC, Dep NC, UNIT 1, 253b NEW WORKS
ROAD, BRADFORD, BD12 0QP. Tel 0274 691115**

BASIC English

There is a bewildering number of books on BASIC in your local bookshop. Which ones will get you programming quickest? Basil Pigg scans his bookshelves...

Programming is fun; it's the point where your computer stops being a toy and starts being a tool with a lot of potential. Though there are a million languages in the world, everyone starts with BASIC, and despite its simplicity it is capable of anything you can achieve in C, Pascal, Fort, Lisp and the rest. Get programming and you could be writing your own games, selling your commercial programs, writing routines to run your club or small business, devising educational listings to help your kids or brothers and sisters with their homework... anything is possible.

It used to be fashionable to sneer at Beginners All-purpose Symbolic Instruction Code as a sort of computing's instant camera, a point-and-shoot device for writing programs which produced fuzzy and amateurish results.

Now, however, it's back in fashion, just as 'compact' cameras now bristle with technology and can produce results as good as the professionals. Ever faster processors mean that easy and straightforward BASIC listings run quite fast enough. An Archimedes runs BASIC so fast you can write eight-way scrolling shoot-'em-ups quite happily, and ST owners can write their own perfectly respectable games in STOS BASIC, with an Amiga version on the way. PCW owners get a free implementation of BASIC which has everything you need to write your own database or accounts program. Just about every machine comes with some sort of BASIC, and you can be writing your own stuff straight away and with no outlay.

The only problem is that more often than not your helpful handbook gives you little more than a list of commands, no good if you want to be told how to write a program.

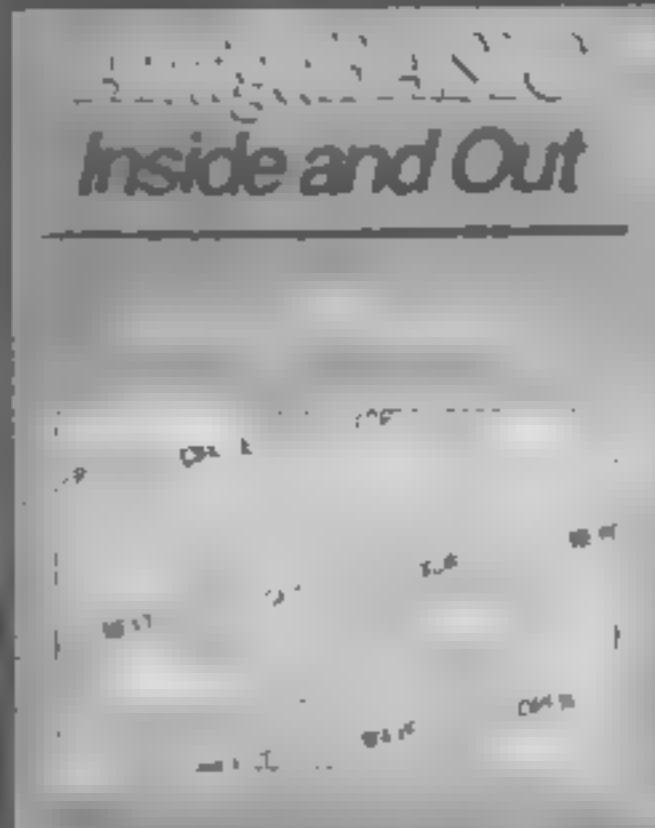
Here then is a list of the best books that should start you off in BASIC. Soon you'll be writing your own arcade adventures and shoot-'em-ups, selling your database and accounting packages and brilliant utility ideas...

Your machine

A quick guide to some of the books specifically for your machine that you ought to look at first if you're into BASIC. 'Built-in BASIC' below means that BASIC is on ROM and always there, while 'Bundled BASIC' means you get it on disk when you buy the machine. Generally, the Abacus or Computel books are well worth considering.

Your first port of call would be your local High Street bookshop. If they don't have them quote the ISBN number and they'll order it for you. Otherwise any of the books below can be ordered from Computer Bookshops (30, Lincoln Rd, Olton, Birmingham B27 6PA, tel. 021-706-1188).

We've tried to give you a beginner's book and a more advanced guide (in that order) for each machine.



Amiga

- Bundled BASIC. Try Elementary Amiga BASIC (Computel, £14.95) ISBN 87455-041-6
- AmigaBASIC Inside and Out (Abacus, £18.95) ISBN 0-91643-987-9
- Advanced Amiga BASIC (Computel, £18.95) ISBN 0-87455-045-9

Atari 8-bit

- Built-in BASIC. No specific BASIC guides as far as we

know, but try:

- Atari XE (or XL) Users Handbook (Weber Systems, £19.95) ISBN 0-93886-241-3 which has a chapter on BASIC to supplement the Atari's poor manual

BBC

- Few books on BASIC of course. Just about the only one you'll find is 30 hour Programming in BBC BASIC (NEC, £12.95) ISBN 0-86082-269-5

C64

- Built-in BASIC which is recognised as the worst on any home micro. You'd be better off buying another one, if you want to explore the one you have.
- Advanced Commodore C64 BASIC Revealed (Collins, £9.95) ISBN 0-00-383088-6

CPC

- Built-in BASIC. If you don't like the guide that comes with it, then try:
- Amstrad - Starting BASIC Book 1 (Glentop, £4.95) ISBN 0-907792-39-1

MSX

- Built-in BASIC. You may have problems getting books on the MSX in the shops. Try Kumon 07357 4335. They do:
- Starting with MSX (£5.95) which introduces BASIC and the more advanced
- Programming in MSX BASIC (£7.95)

PC

- Usually PCs come with GW or compatible BASIC (though the Amstrad 1512 and 1640 come with BASIC 2 with GEM).
- Plenty of books available, none of them vastly superior to the others; see what catches your eye in the bookshop or try:
- GW BASIC Quick

Programming Reference Guide (Abacus, £8.95) ISBN 1-55755-001-8

PCW

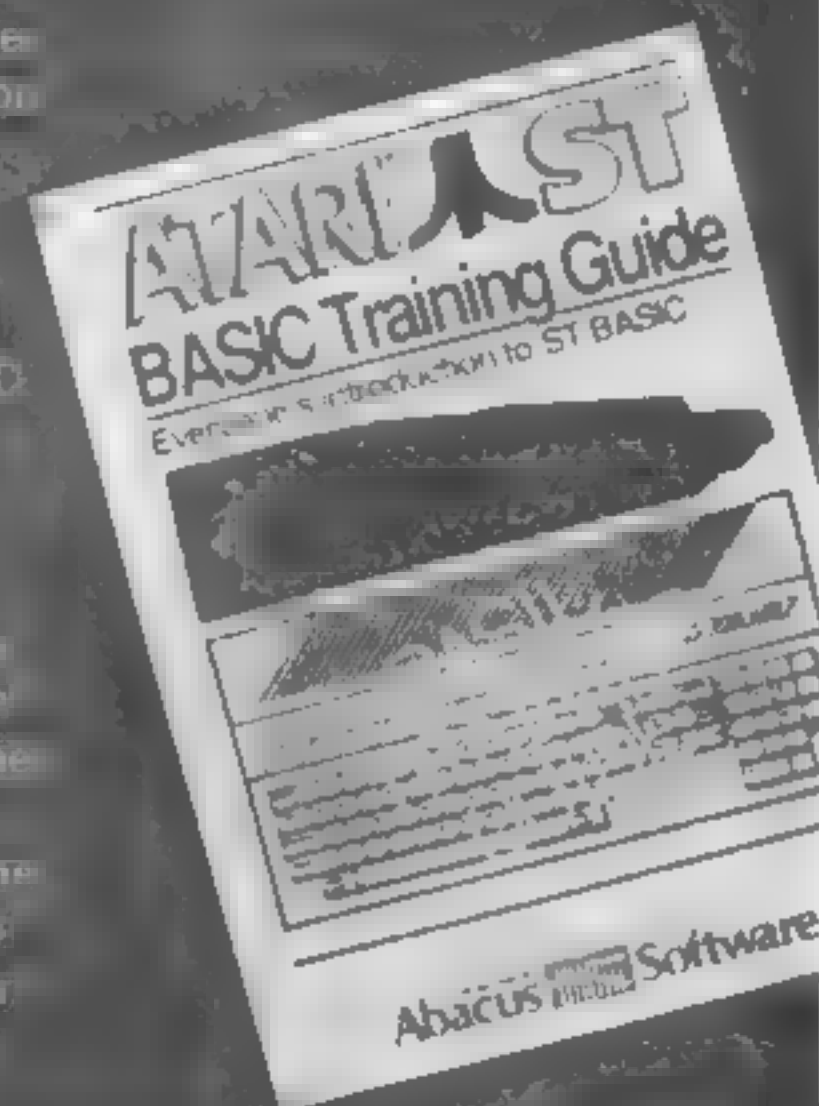
- Bundled BASIC. Except for very early machines, there is no manual. Go for:
- Program Your PCW (Glentop, £7.95) 1-85181-151-6 or the detailed
- Mallard BASIC Introduction and Reference (Amstrad, £9.95) - no ISBN but available from Locomotive on 0306 740606

Spectrum

- Built-in BASIC. The manual supplied is a really good introduction to the language.
- 30 hour BASIC for the Spectrum (NEC, £9.95) ISBN 86086-394-6

ST

- Bundled BASIC and quite a few books around. Try:
- Elementary ST BASIC (Computel, £14.95) ISBN 87455-034-3
- ST BASIC Training Guide (Abacus, £14.95) ISBN 0-91643-957-7



And finally, for the real enthusiast...

BASIC HANDBOOK by David Lien • Compusoft • £22.95 • ISBN 0-932760-33-3

The third edition of this book is for the serious BASIC programmer. It's an encyclopaedia of the BASIC language, detailing the syntax of, and giving examples on, everything from ABS to WINDOW. It's not a tutorial book, and doesn't attempt to teach you BASIC.

Enthusiasts will be



interested to see the range that today's BASIC now encompasses, and will be thrilled to know that it is available in French, Swedish, Italian, Norwegian, Spanish and Dutch, when it is known as Het BASIC Handboek. Though it attempts to cover all machines, it is of course PC and (being American) Mac oriented. If you're serious about your BASIC you'll want it to sit next to the first and second editions on your bookshelf.

ST

A while back Condor Computers announced Troika, a 1040 comprising a Mac and PC emulator. Nothing startling about that — emulators of such a nature already exist. It seems the configuration floated several months ago was very provisional indeed!

The 1040, naturally enough, has 1Mbyte of RAM while the Mac and PC have 512K each. The machine that's in operation can 'pool memory' and use the RAM contained in the other two computers. This means that each machine has access to 2Mbytes of memory.

After I revealed last week that Third Coast is planning a series of go-faster boards for the ST, further details of one of the proposed processor accelerators for the 520 and 1040 have emerged.

There are two version of the board, one isn't a board at all, but simply a 16Mhz-rated processor which serves as a direct replacement for the standard ST processor. The 16Mhz 58000 executes instructions twice as fast as normal. Just imagine Starglider II at twice the speed. Mmmm, I want one!

Many earlier 520s and 1040s don't have a blitter socket fitted as standard, so the chance to fit one with the minimum of fuss is appealing. Also on the board is a battery-backed clock.

If you're interested, you can contact Third Coast at Unit 8, Bradley Hall Trading Estate, Standish, Wigan, WN6 0XQ (0257 426464). The price for the replacement 68000 is £99, while the basic plug-in board costs £149.

Condor is looking at a September release date for Troika (surely not a PC Show launch?) But if you want to know more about the proposed system before that time, contact Condor at **31 Palace St, London, SW1E 5HE** (01-828 9755).

● Gary Drake at Tempest would like me to pass on his thanks to those that responded to his proposition for a cheap ST hard drive. The final knots are being tied, so you should see an auto-booting 20Mbyte drive for around £350 soon. It'll be the cheapest auto-booting ST on the market when it appears — watch out for it! By the way, Gary informs me that the 10Mbyte drive is still a possibility. Tempest is at EOS House, 145 Staple Hill Rd, Fishponds, Bristol, BS16 5AG (0272 574569).

File Page Text Style Format Tools Help Info

DOCUMENT1.MP (size 100)

Calamus

This is a TEST of its f

Testing the within Wide printer

Doc 1

• £20 workable demo ■ Calamus available from Signa

Another word processor: *That's Write*. That's right. *That's Write*, you read write err, right. However, judging by the specifications, it could be a real cracker. How's this.

- Automatic indexing.
- Font editor for characters, fonts, logos, symbols
- International editable keyboard.
- Automatic hyphenation with user exceptions.
- Integrated spell checker and mail merger.
- Optional dictionary and hyphenation rules for foreign languages.
- Snapshot accessory

There's support for all types of printer — 9-pin, 24-pin, laser (including Atari's) Text and graphics can be mixed, micro-spacing is employed for perfect justification, supports built-in printer fonts and graphic GEM fonts (Helbo, Symbol, Gothic, Times, etc).

Stylesheets for both paragraphs and pages can be implemented. Paragraph stylesheets specify font and style, tab stops, margins, indents and line spacing. Page layout specifies size of paper, margins, number of columns, and headers and footers.

As if that lot wasn't enough, there's blitter support, monochrome and colour screen compatibility (even A4 and A3 screen sizes), multiple text windows, auto-backup after user-defined time, cut and paste to four buffers, *First Word Plus* conversion utility and ten text markers - and all for £129 from Cavendish Distributors, 209-212 Tottenham Court Rd, London, W1 9AF (01-323 4761).

Adrian McHerriot

NEW COMPUTER EXPRESS • 10 JUNE 1989 • 33

WE ACCEPT
EXPRESS
VOUCHERS

EALING COMPUTER CENTRE

WE ACCEPT
EXPRESS
VOUCHERS

No. 1 Place for ATARI ST/AMIGA in
West London - All prices inc. VAT
This Months Special Promotions

MEGA ST 1

£499.00

ONLY

PANASONIC

KXP 1124
PRINTER

£299.00

ONLY

PROFESSIONAL

PACK OF SOFTWARE
ST, "MS-WRITE", "TOP
PROF", "SUPER
BASE", "PERS",
"BASIC"

£85.00

ONLY

ATARI ST/MEGA

All with Starter Pack
Metacomco, ST Basic, Mouse Mat, Disk Box.

| | |
|--|-----------|
| ATARI 520 STFM "EXPLORER" PACK 1 Mb Drive | £269.00 |
| ATARI 520 STFM "SUPER PACK" 21 Games + Organiser + Joystick | £345.00 |
| ATARI 520 STFM "POWER PACK", NEW - 23 Titles incl. ORGANISES & MUSIC SOFTWARE | £359.00 |
| ATARI 1040 STFM - 1Mb Memory, 1Mb Drive, TV Modulator | £399.00 |
| MEGA ST 1 - with Blitter, Clock, Calendar | £499.00 |
| MEGA ST 1 - NEW LOW PRICE!!! | £749.00 |
| MEGA ST 4 - Most Powerful | £1,049.00 |

| | |
|---|---------|
| Mono Monitor SM124 ONLY (with or without ST) | £100.00 |
| Professional Pack - "MS-Write", "Top Prof", "Super Base", "Pers", "Basic", "Metacomco Basic Rev. B" | £50.00 |

| | |
|--|-----------|
| SLM804 LASER PRINTER, Best Value, 90 days on site maintenance | £1,095.00 |
| Hard Disk 20 Mb | £349.00 |
| Hard Disk 40 Mb | £449.00 |
| Mega ST2 Package incl. Mega ST2, SM124, SLM804, Professional Pack as above, 90 days on site maintenance | £1,699.00 |
| Drive "Cumana" 1Mb, 3.5" Drive, with PSU switch | £89.00 |
| Drive "Cumana" 40/80 Track 5.25" | £129.00 |
| Atari SC1224 Colour Monitor | £269.00 |
| Philips 8833 Colour Monitor inc. Cable | £249.00 |

AMIGA (with AMIGADOS 1.3, Workbench 1.3 etc)

| | |
|---|---------|
| Amiga 500+ TV Modulator + "Tenstar" - Amegas, Art of Chess, Barbarian, Buggy Boy, Ikari Warriors, Insanity Fight, Mercenary Comp, Terrorpods, Thundercats Wizball + Mouse Mat, + Disk Box | £389.00 |
| Amiga 500 + TV Modulator + Mouse Mat + Disk Box | £359.00 |
| Disk Drive 3.5", Throughport, Switch | £80.00 |
| RAM Expansion A501 + Clock Card | £130.00 |
| BBC Emulator - Run BBC Software | £40.00 |
| Philips 8833 Colour Monitor, Stereo, inc. Lead | £249.00 |

ATARI ST/MEGA SOFTWARE (in stock)

| TIMEWORKS (30% off RRP) | ANTIC (up to 30% off RRP) |
|-----------------------------|---------------------------|
| Data Manager | Spectrum 512 |
| Swift Calc | Cyber Studio |
| Data Manager Prof. | Cyber Control |
| Desktop Publisher | Cyber Paint |
| Word Writer | Cyber Sculpt |
| Partner ST | Cartoon Designs |
| 1st Word Plus vers. 3 (new) | Video Tiling Designs |
| VIP Professional | 3D Developers disk |
| Microsoft Write | Cyber Texture |

Over 1,000 Titles ST/AMIGA Software. Discount up to 33% Mail Order only

PRINTERS FREE Printer Cable on presentation of this AD

| | |
|---|---------|
| STAR LC-10 Best-Selling 144/36 Printer, 4NLQ Fonts | £195.00 |
| STAR LC-10 Colour Version of above | £245.00 |
| STAR LC24-10 24 pin, 170/56 CPS Printer, 8LQ Fonts | £319.00 |
| PANASONIC KXP 1081, Reliable Printer, 120/24 CPS | £165.00 |
| PANASONIC KXP 1180, Super New, 192/38 CPS, 3400 Type Styles | £199.00 |
| PANASONIC KXP 1124 - Exceptional, 24 pin, 192/63 CPS, 6LQ Fonts | £299.00 |
| (KXP 1180, KXP 1124 - Paper Parking, Original + 3 copies, A4 landscape) | |
| Citizen 120D - Best Value, 120/24 CPS | £139.00 |

ACCESSORIES ST/AMIGA

| | |
|--|---------|
| "INTEGRATER" - 20Mb HD, 3.5 Floppy, Power Station, Real Time Clock, Metal Case, and many more | £745.00 |
| Scanner - Cameron, 64mm, inc. Paint OCR Software | £199.00 |

Prices include Delivery for Software and small items. For Next Day
Courier Add £6 (within M25) or £10 Mainland. - Above prices for Mail
Order, Shop Prices may vary.

All offers subject to availability. - E. & O.E.

We are at the corner of Hanger Lane (North Circular)
8 Queens Drive - Easy Parking

10 DISKS 3.5" DSDD ONLY £6.99

with any purchase of
£100 or more. Lowest
Price in UK?

YOUR FORMAT MACHINE-SPECIFIC COLUMNS

PC UPDATE

GEM out of the Window

Do you get very excited when your favourite Eurovision song gets practically no votes from the Euro voting panels? Do you heap abuse at the judges when Ms Guatemala gets no votes and doesn't even make it to the shortlist? It's a shame when your favourite seems to be losing out to the market leader.

So it is with GEM and Windows. It appears that Windows is beginning to win out over its Digital Research rival, almost entirely because Microsoft is writing Presentation Manager. As I'm sure you're aware, Presentation Manager is the new graphical front-end which fits OS/2 on the IBM PS/2 range of micros. The industry seems to be coming round to the idea that IBM will eventually win the day with PS/2, and the wise money is to get in there early with PM applications. PM is close enough to Windows that applications written for it now will be comparatively easy to translate later.

Where does this leave GEM and DR? DR has done well with GEM, making the system good and fast (comparatively) and interesting a number of third parties writing software for it. They tied up a deal to bundle the package with Amstrad micros which has given them a huge user-base. As it stands at the moment, GEM will work adequately on an 8086-based PC and quickly on ATs and 386s. The design of the user interface is good and even allowing for the design changes DR was forced to make after a wrangle with Apple, it is a comfortable and adaptable environment. The only place it fell down was in giving the product no multi-tasking capability. I'm not a great fan of multi-tasking, but I have to go with the flow and say that's where things are heading. GEM XM, DR's multi-tasking version of GEM, never really caught on, and they didn't revamp it to have a second go.

Windows, in contrast to GEM, is ponderously slow on anything but a fast 386 machine, looks tacky (to my eyes anyway) and is far from being solid. There are still fewer applications for it than for GEM, but more and more are being released, and some Windows applications are now appearing without a copy of Windows included in the price - a sure sign that software companies at least think it has become a standard. Windows has the money behind it, Windows is likely to be the eventual winner, but I still think Ms Guatemala deserved better.

● Visualex's LCD projection panels offer a way of using your PC display for presentations via overhead projectors. (See Shining through)

Different PC graphics modes are catered for, with prices ranging from £700 to £2,300 (ex. VAT).

The panels are mono only at the moment, but colour is apparently on the way...

Shining through

Amazing things, LCDs. Not only are they becoming the all and end of low-end portable PCs, but they're beginning to come out in colour and now you can even use the mono ones on your overhead projector. You don't have an overhead projector? - you don't know how to live, do you?

Those who do know how to live, and use

both an overhead projector and a PC, might be very interested in the range of LCD panels marketed by Visualex of Henley (0491 579789). These panels fit over the bed of an overhead projector and connect via a cable to the signal input on the back of a PC monitor. Anything that is then displayed on the monitor also appears on the LCD panel, and the projector lamp shines through to display the screen on the wall.

Printer Switch PPS

As they say in the trade, "This one'll run and run." Remember the switch box problem? You could forget. I wanted a switch to flip a laser and a dot matrix printer between two PCs, and discovered that HP LaserJets don't like the switching transients manual switches can produce. In the end I've shelled out for an electronic 4 to 1 switch (allowing for expansion to the system) and will have to buy an extra printer port for one of the PCs to run the dot matrix.

The electronic switch from Technomagic (01-205 9558) costs £59 plus VAT and auto scans the four inputs continuously, looking for data. Four little LEDs on the front panel show me this, and they only settle down when data's chugging through one of the lines. The whole thing works well. All I need now is the extra parallel port, perhaps on the readdressable floppy card I started searching for last week.

The panels come in a variety of resolutions and prices, starting with a CGA unit, the Sharp OA25, retailing at £700. One step up leads to the Kodak Dataslow HR, which gives EGA and CGA for £1,495. These two models come with presentation software and the HR has a remote control unit, too. Next up is the RPS Symposium 3 which does VGA/ EGA/ CGA/ MDA and Hercules for £1,995. Top of the range is the Sharp OA50 at £2,295, which does everything the Symposium will with a very high quality display. All prices exclude VAT. Colour LCD panels are on the cards within the next year or so.

More printing

One of the more sophisticated pieces of software supplied with MS-DOS is the PRINT.EXE utility. This is a print spooler which will carry on printing text files while other things are going on on your PC - yes, it's multitasking. Assuming DOS can find PRINT.EXE, the command PRINT FILEA, FILEB, ETC will print three files FILEA, FILEB and ETC in a queue.

Coincidentally, PRINT.EXE is what's



missing from the two disks you get after unloading the Contacts Manager programs from the current PC Plus SuperDisk. To save you the cost of a phone call to the support line, you need to copy PRINT.EXE onto the CONTACTS 2 disk before running MANUAL.BAT to print Contact Manager's documentation.

Simon Williams



Sinclair 1, CPC 0

So Amstrad has introduced a new Sinclair ZX Spectrum 'Action Pack' including a light gun? Apparently there's an 'extensive' television and press advertising campaign planned for November as part of the Christmas lead-up.

Oh goodie! Given the sudden unexpected increase in demand for the CPC last Christmas - which has continued ever since - no doubt Amstrad has something similar planned for us.

Ah, yes, well... There are, it seems, "no plans at the moment" to offer would-be CPC users a similar opportunity to "play a more active role in games supplied". Once again Amstrad has chosen to ignore the machine that started the whole thing off.

No explanation has been forthcoming on this extraordinary decision.

A belated Christmas present

It's believed that approximately loads of you went out last Christmas and bought Ocean's *Giants* compilation. So roughly loads of you will be as pleased as I was to find a poke for *Gauntlet II*, featured on that colossal collection. Say thank you to Julian Page, everyone.



• Giants gets a good poking up the Gauntlet

```
1 'GAUNTLET II - Disc
2 'GIANTS Compilation
3 '300 Health Boost
4 'for food+cider
5 'By Julian Page
■ 'For NCE June 1989
10 DATA 84,21,00,0E,0E,07
20 DATA CD,D4,BC,3E,07,32
30 DATA 82,BE,22,80,8E,21
40 DATA 00,01,0E,41,11,00
50 DATA 00,DF,80,BE,F3,3E
60 DATA C9,32,0E,01,CD,04
70 DATA 01,21,40,00,22,D3
80 DATA 03,C3,00,02,XX
90 DATA 3E,03,32,9C,28,C3
100 DATA 00,01,YY
110 MODE 1
120 READ A$
130 IF A$="XX" THEN 160
140 POKE &BE00+X,VAL("&"+A$)
150 X=X+1:GOTO 120
160 READ A$
170 IF A$="YY" THEN 200
180 POKE &40+Y,VAL("&"+A$)
190 Y=Y+1:GOTO 160
200 PRINT"INSERT GAUNTLET II"
210 PRINT"DISC & PRESS A KEY"
220 CALL &BB03:CALL &BB06
230 CALL &BE01
3 '300 Health Boost
4 'for food+cider
5 'By Julian Page
■ 'For Amstrad Action.
80,BE,F3,3E
```

```
60 DATA C9,32,0E,01,CD,04
70 DATA 01,21,40,00,22,D3
80 DATA 03,C3,00,02,XX
90 DATA 3E,03,32,9C,28,C3
100 DATA 00,01,YY
110 MODE 1
120 READ A$
130 IF A$="XX" THEN 160
140 POKE &BE00+X,VAL("&"+A$)
150 X=X+1:GOTO 120
160 READ A$
170 IF A$="YY" THEN 200
180 POKE &40+Y,VAL("&"+A$)
190 Y=Y+1:GOTO 160
200 PRINT"INSERT GAUNTLET II"
210 PRINT"DISC & PRESS A KEY"
220 CALL &BB03:CALL &BB06
230 CALL &BE01
```

By the way if you've written pokes or discovered cheats for games you'd otherwise never even come near to completing, why not share them with the rest of us? Send your barrier buster to Steve Carey, CPC Centre, NCE, 4 Queen St, Bath BA1 1EJ.

Nice one, Elite

Over the past six months or so there's been a growing trend among budget software producers towards the £2.99 price level - a sudden increase. I need hardly remind you, of 50 per cent (approx.)

Well, Elite has had releases at both £1.99 and £2.99, and is in a position to make comparisons. Furthermore the company has commissioned Gallup to look at the pricing system. And Sales Director Bernard Dugdale believes that Elite can sell three times as many games at the lower price. Result: "We're sticking at £1.99."

Incidentally, in 1988 Elite had five games reviewed in *Amstrad Action*, and achieved an average rating of 71 per cent. Not only was this higher than other budget specialists, it was a better strike rate even than some full price software houses. So it appears that, despite what's often said, "quality" and "budget" are not mutually exclusive labels.

CPC exclusive

Tony Palfrey of Innovation Research and Development tells me a clever idea to market *MacroLink*, a new British computer language available only for the CPC that produces assembler source code (though PC versions and others are under way).

SOS

I've just had a letter from David Mitchell of Clacton-on-Sea, who wants to know where he can buy continuous stationery - not fanfold, but on a roll. "I write lots of fairly short letters or notes, and using fanfold I get a lot of small pieces of paper, most of which get thrown away, with the consequent wastage rate of about 40 per cent."

This sounds like a brilliant idea, David. I seem to recall that genial genius P.G. Wodehouse used to type on a continuous roll paper (he said he always lost his thread when he... erm, what was I saying?)

Anyone but there got any ideas?

"We find that even a BASIC programmer who's never handled assembler can immediately start to program in pure machine code," said Palfrey, "using the *MacroLink* language of key word routines. An experienced user can produce up to 5,000 bytes of debugged code a day." Since the language writes in source code the routines are more adaptable than any other language, he claims. But you don't have to take his word for it - £3.50 (redeemable against orders), IRD (phone number 0733 232110) will supply a video which demonstrates the language.

Steve Carey

THIRD COAST ATARI HARD DRIVES & TAPE BACK UP DEVICES

Processor Accelerator for Atari and Amiga 100% more performance, 16 Mhz clock speed 68,000. Direct replacement, easy to install. ONLY £165.00 inc VAT.

155 M/BYTE TAPE BACK-UP FOR ATARI ST COMPLETE HARD DRIVE RANGE

Compatible with Atari SH204/205, Megafile 20/30/60, Third Coast Drive, Supra Drive, Cumana Drive.

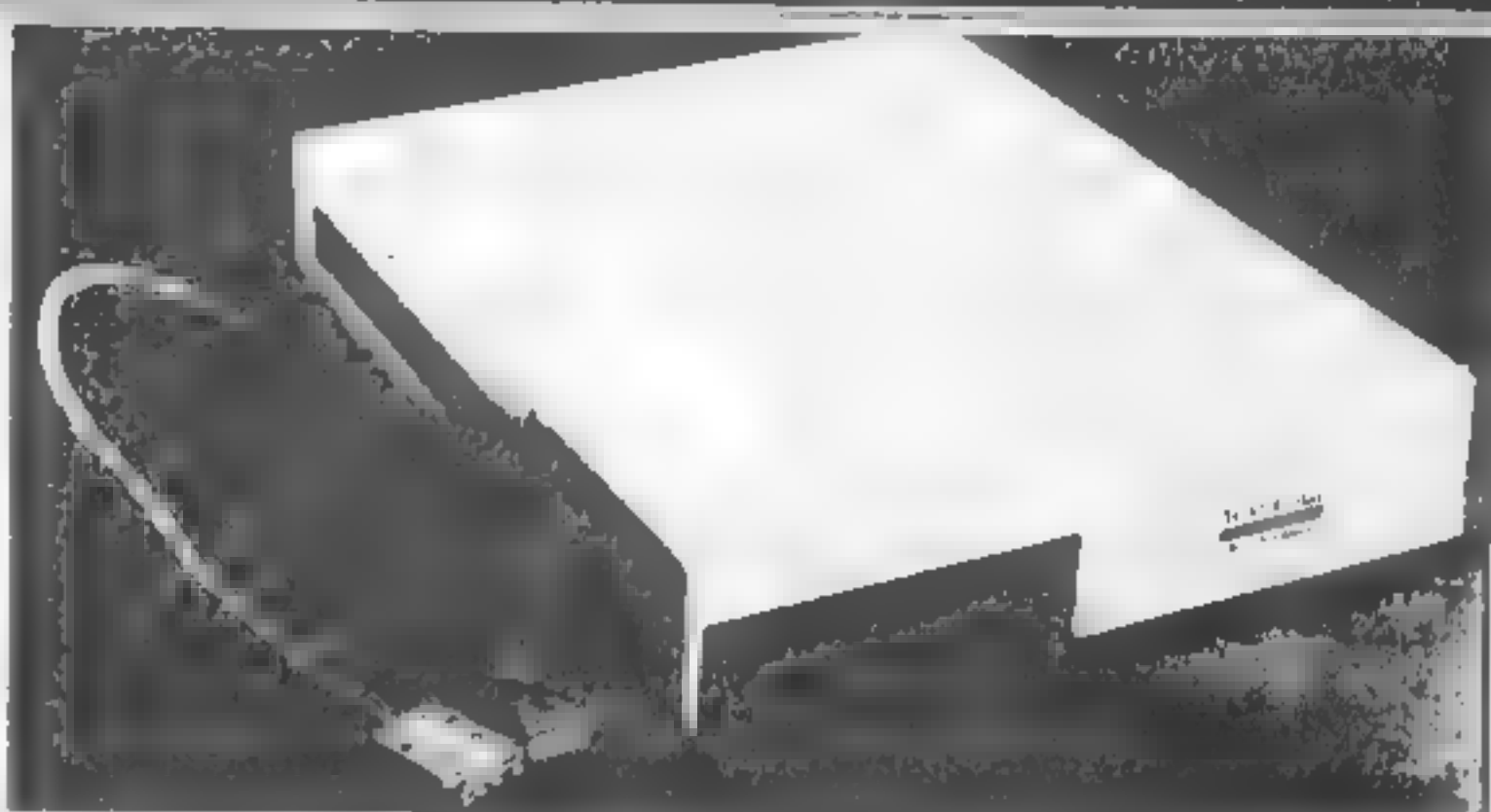
Backs up 155Mb in 20 minutes

- External enclosure offers DMA IN/OUT
- Battery backed clock
- 50 way SCSI OUT
- SCSI selector
- Comes complete with own case & power supply
- Will support internal SCSI Hard Drive

ONLY
£873

1M/byte Internal Floppy Drive for Atari ST £69 inc VAT

ATARI ST COMPATIBLE HARD DRIVES



- Will support second drive
- Supports full auto boot
- 65 watt PSU
- Battery clock on host board
- Full one year guarantee on drive mechanism

- 35 inch DMA cable
- Robust design slides under monitor
- Six months free phone support
- Superb software including data checker, backup utilities.

| | | | |
|--|------|--|-------|
| 11 M/Byte (formatted) | £389 | 115 M/Byte (formatted) | £899 |
| 32 M/Byte (formatted) | £439 | 130 M/Byte (formatted) | £983 |
| 32 M/Byte (25 ms Head Auto Park) | £479 | 20 M/Byte (Removable) | £499 |
| 45 M/Byte (25 ms Head Auto Park) | £499 | 40 M/Byte (Removable) | £599 |
| 65 M/Byte (25 ms Head Auto Park) | £579 | 80 M/Byte (Removable) | £899 |
| | | 65 M/Byte SCSI Drive with Tape Back-up | £1150 |

Third Coast DIY Kits (Everything to build your own Drive)

| | |
|--|------|
| DMA/SCSI Host Boards | £89 |
| RL Adaptec 40 70 or Omti 3527 controllers (giving 50% more out of any drive + twice the speed) | £96 |
| Astec 65 watt PSU's | £39 |
| Enclosures (as above - including fan, Astec - everything bar drive) | £299 |

Third Coast Drive Upgrades

(Upgrade your Atari SH204/5, Megafile 20/30, Supra, Cumana or Triangle drives)

45 M/Byte (mechanical head - auto park) features new faster software, up to 12 partitions, backup programs. Fast installation, all data copied to new drive. Trade in on existing drive. 45% more performance, 65% more capacity. Plated media, non oxide (complete)

£249.00

65 M-Byte (Mechanical head park) complete

£299.00

RAM Expansion Boards for ATARI ST

| | |
|--|---------|
| 4 M/Byte Board with 2 M/Byte on board | £379.00 |
| 4 M/Byte RAM board without chips | £80.00 |
| Half M/Byte RAM expansion board for 520ST | £120.00 |
| Half M/Byte RAM expansion board without chips | £35.00 |
| 1 M/Byte RAM upgrade (to upgrade 1Mb ST to 2 Mb) | £299.00 |
| 4 M/Byte RAM board - populated | £599.00 |
| Track Ball for ST | £25.00 |

Full one year warranty
ALL PRICES INCLUDE VAT.
Trade and University enquiries welcome.



THIRD COAST TECHNOLOGIES
Unit 8, Bradley Hall Trading Estate
Standish, Wigan, WN6 0XQ

Tel: 0257 426464

Fax: 0257 426577

Software

SUPERSTORE

YOUR ONE STOP SHOP

MORE SOFTWARE THAN YOU CAN HANDLE!
MORE HARDWARE THAN YOU CAN USE!

AMIGA A500

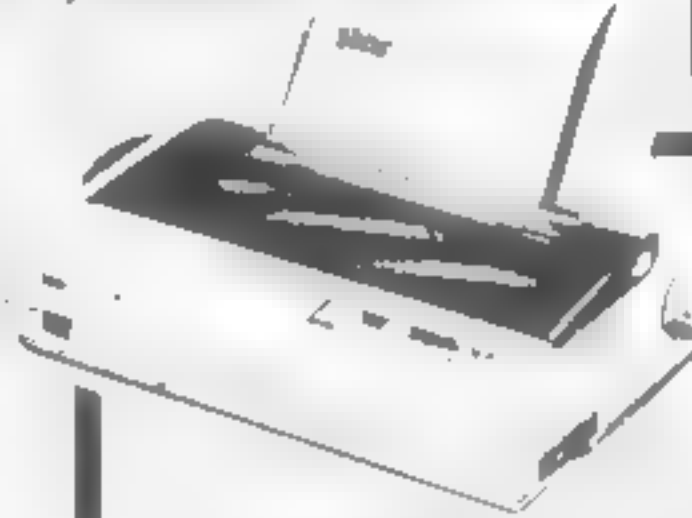
inc. FREE Modulator
PLUS: WORKBENCH 1.3 AMIGA EXTRAS 1.3
AMIGA BASIC 1.2 AMIGA "THE VERY FIRST"
MOUSE CONTROLLER AMEGAS ART OF
CHESS BUGGY BOY WIZBALL TERROR
PODS INSANITY FLIGHT IKARI WARRIORS
BARBARIAN THUNDERCATS MERCENARY
COMPENDIUM INDIVIDUALLY WORTH £643.49
ONLY £399.00 OR £17* MONTHLY

ST DEALS

FROM £299

OR £13* MONTHLY
(inc. FREE Software)

*Subject to Status



Commodore 1230 Printer.
Centronics & C64 Interface as standard. FREE
cable. SUPERB VALUE **ONLY £169.99**

THIS MONTH

Every AMIGA
2nd Disk Drive
Includes FREE
SPRITZ PAINT
(R.R.P. £49.99)
ONLY £99.99

STAR LC10

PRINTER + FREE CABLE
SUPERB VALUE
ONLY £219.99

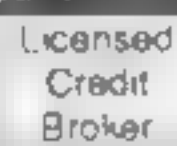
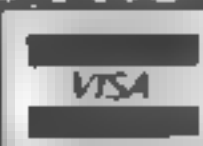
SOFTWARE

WE STOCK
A HUGE
RANGE OF
SOFTWARE
FOR BOTH
THE AMIGA
AND
ATARI ST
SYSTEMS

GENIUS REPLACEMENT
AMIGA MOUSE £24.95
ST MOUSE £24.95
AMIGA RAM CARD
(UNPOPULATED) £19.99
CARD PLUS BATTERY
BACKED CLOCK £29.99

MAIL ORDER
ADVICE HOTLINE
(0782) 268620

for FAST & FRIENDLY SERVICE



SEND S.A.E. FOR CATALOGUE

STOKE-ON-TRENT

Market Square Arcade, Hanley
Stoke-on-Trent
Manager: Dave Tel: 0902 220000
Open 6 Days

SHEFFIELD

Wingate, Sheffield
Manager: Tony
Tel: 0742 721900
Closed Thursday

ST HELENS

Baldwin Street, St Helens
Manager: Adrian
Tel: 0744 27941
Closed Thursday

STOCKPORT

Medhouse Brow,
(Off Little Underbank), Stockport
Manager: Ray
Tel: 480 2693
Closed Thursday

YOUR FORMAT

MACHINE-SPECIFIC COLUMNS



Now, even smoother...

Mark Bailey's scrolling message routine of issue 26 seemed to impress everyone who took the trouble to type it in. Now in the great traditions of washing powder, I've just been sent a new, improved version. Surprisingly, it manages to considerably enhance Mark Bailey's already excellent program.

The sender was an old friend of mine, Antony Purvis. He thought the original was "a lovely piece of code", and said that Mark "certainly knows what he's doing".

Purvis's improved version runs independently of BASIC and under interrupt control, hence even smoother scrolling. To benefit from this new, improved scrolling routine, type in the following listing after the original program, or type it in separately, save it, load the original routine and then MERGE this program over it.

```
DATA "Here It Is! The
New Modified Scroller!
Original Scroll Routine
Written by Mark Bailey -
Interrupt Driver & Code Patching
Purvis's..."
150 CLEAR 59985: RESTORE 200
160 READ A
165 READ B: IF B=999 THEN GO TO 180
170 IF B> 256 THEN LET A=B: GO TO 165
175 POKE A,B: LET A=A+1: GO TO 165
180 FOR n= 65294 TO 65322: POKE n, 0:
NEXT n: POKE 60100, 0
185 RANDOMIZE USR 65281
190 STOP
200 DATA 59986,245,197,213,229
210 DATA 60060,19
220 DATA 60073,225,209,193,241
230 DATA 195,56,0,229,235,203
240 DATA 22,235,19,225,24,228
250 DATA 65280,243,33,0,254,17
260 DATA 237,176,65323,62,254
270 DATA 237,71,237,94,201,237
280 DATA 86,201,60052,223,80
290 DATA 65021,195,82,234,999
```

If you use MERGE, you must merge the prog listed here into the original one from issue 26's SPEX which should be in memory. Purvis has also had a rummage through the code and produced for your delectation the following pokes to use in conjunction with his Mega Scroll Modifier Program.

● POKE 59998 will control how many one-pixel scrolls are performed between each letter. 8 is the normal but 9 will spread the letters out a bit. Values of 10 and higher will cause corruption.

● To control which line the scroller scrolls: PRINT AT (desired line no.), 31; (semicolon is vital)

POKE 60052, PEEK 23684

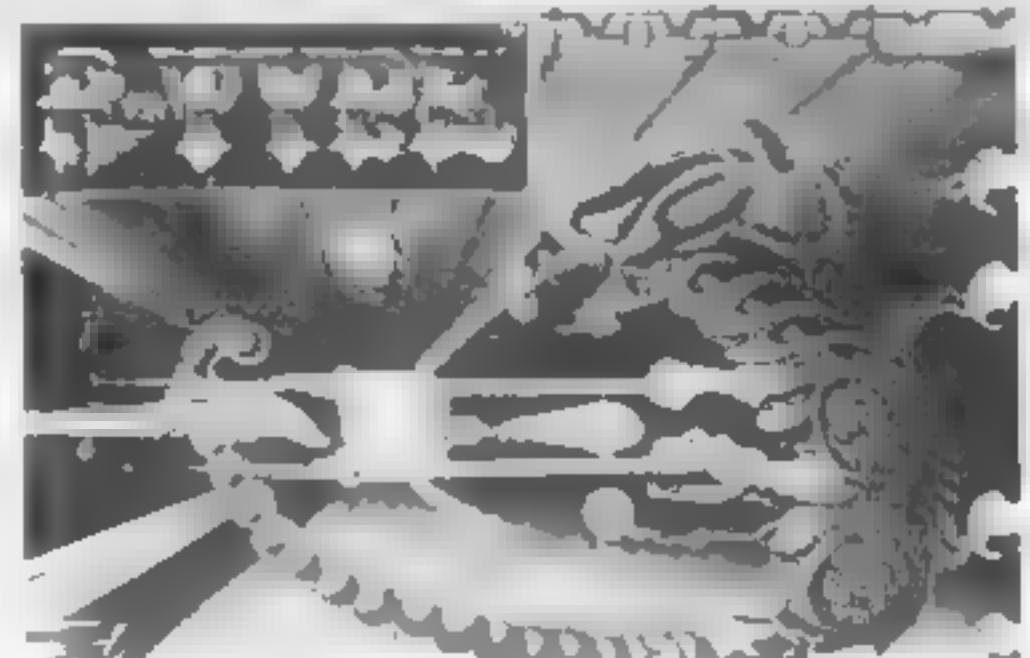
POKE 60053, PEEK 23685

Many thanks to the one and only Purvis for sharing his ample talents. If anyone else has got a program, be it useful, innovative or frivolous - but definitely compact enough to fit the confines of this column - send it in! To be really nice to me, send a listing and tape with your routine recorded on it if poss. The address for everything is SPEX, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

Incompatibility blues

Mr Postman delivered a very distressing piece of mail the other day that wasn't a bill. It was a letter from Jeff of North Shields concerning the dreaded +2A.

"Could you please help me. I bought a Speccy +2A and rushed home to try the 6 free games. They were rather pathetic but nonetheless worked, and my daughter found them quite amusing. And now to the crux of the matter. Since then, I have tried the original games, of which only 9 worked...they either hung up or bombed when you touched a key. Could you tell me what you think could be wrong or if the games I have tried are not compatible with the +2A? I might add that if you think it's a compatibility problem I shall have to give up on Sinclair products as there would be no point in owning a computer of which less than half the software base is compatible, going by my experience anyway."



• R-Type: Will it run on the +2A?

According to Jeff, some of the games that won't work are R-Type, Renegade, Cobra, Dizzy 2, Pacland, Combat School, Barbarian 2 and Short Circuit. All of these loaded on a standard 48K Speccy.

Well, Jeff, I hate to break this to you, but (gulp) it is a compatibility problem. If the games worked on a 48K there's nothing else it can be. Apparently, games that utilise IN.A(10495) don't work with the +2A. Amstrad's feelings at the time of release were that whilst older software might cause problems, up to date games wouldn't. Looking at some of the titles on your list, this obviously isn't the case. I think trouble comes about because the majority of programmers aren't acquainted with exactly how incompatible the +2A is yet. I'd be interested to hear from anybody else suffering from incompatibility blues.

It's a pretty rum situation to be in, and, where possible, I'd advise everybody to try and buy one of the original grey +2s rather than the new black version. As for abandoning your Speccy, don't do it! Just think of all the hundreds of really good things you'll miss out on. Well, all right, the one really good thing you'll miss out on. (Clue: Appears every week on page 36 of Express.)

Robin Alway

Free user group!

Last issue I told you about a small PD software house that was recommended to me by a happy customer. Boss of same company has just written to tell me about a +3 users group he's started.

Anyone owning a Spectrum +3 is welcome to join and, amazingly, it's all totally and utterly free! Members will receive a newsletter, featuring news, games, letters and listings, and the groups roll-call already boasts two Grecians and an Ozzie.

For details, write to the incredibly generous Lee Davis, +3D, 3 Hendre Close, Rhuddlan, Chwyd LL18 5UE. No doubt an SAE would be appreciated. Lee's bank manager, at any rate.

SECTOR 64 SECTOR

Tips bits

● Thanks to Joe O'Brien for the groovy cheat for the mega *Wizball* from Ocean. On the title screen, just type WIZBORE, and the border should quickly flash. You will now have Rambo for a wizard, but still a mortal cat.

Andrew Cooper would like some cheats for *Bubble Bobble*, so if anyone has any then please send them to us at Sector 64. Also answering the question of any good printers for the C64, here are our suggestions. For really good letter-quality, there is the DPS 1101 from Commodore which uses a daisy wheel so it can't do graphics etc but is capable of excellent letter-writing. If it's a graphics printer you want, then the MPS 801 is the one for you - but it offers very poor letter quality.

Techie corner

Regarding a question about getting more than four colours on the C64's bitmap, the answer is yes - but you can only have three per character square.

This is done by using the colour memory and what value you give to the char screen - i.e. the top 4 bits of a value store one colour, and the low 4 bits store another. For example, if you put \$6e to location \$0400 while the bitmap is on with multicolour, you would get

blue (\$6) and med blue (\$e), and the third colour would depend on the value in the colour memory.

Remember, if you have any problems, or you'd like a cheat or listing printed, then why not let us know.

New Releases

Coming to your software store on June 8th:

● Barry McGuigan's Boxing ● Mastertronic Plus ● £2.99

● Advanced Basketball Simulator ●

Mastertronic Plus ● £2.99

● Transformers ● Mastertronic Plus ● £2.99

To be here on June 24th is:

● Little Computer People ● Mastertronic ● £2.99



● Little Computer People: Already out on the 16-bits and out soon on the C64

- a game you can't afford to miss

Code Masters too has some new releases on the way:

● Rally Cross ● Code Masters ● £2.99 ● June

● Rockstar ● Code Masters ● £2.99 ● June on disk

● Freestyle ● Code Masters ● £2.99 ● June

● Image Works has a new stunner from Tony Crowther called *Phobia*. With one and two-player options, *Phobia* takes the form of a horizontally scrolling shoot-'em-up, and features an innovative graphic style using a technique never before seen on a C64 game, which produces a level of colour scrolling unsurpassed by any other C64 program currently on the market.

● Speedball ● Image Works ● £8.99cs, £12.99dk

The highly-successful 16-bit game has now been converted to the C64, and promises to be just as addictive as the original 16-bit versions. The tape version should be out as you read this, with the disk version to follow very soon.

Speedball is a fast ball game, in which strategy and speed are essential for success as the players joust for the ball. Weaponry ensures that you can blow the opposition away. Another dimension is added to *Speedball* with tokens which appear on the floor of the Speed Dome, which, when collected, provide players with an assortment of power-ups such as faster movement, better weapons etc.

Stay tuned

Next week we'll be reporting on what we thought of the recent Commodore exhibition at Novatel.

Ian + Mic

Boogie on down

Andrew Cooper also sent in a short listing that anyone could type in.

10 POKE \$32B,0:POKE \$32B,1:POKE \$32B,2:POKE \$32B,3:POKE \$32B,4:POKE \$32B,5:POKE \$32B,6:POKE \$32B,7:POKE \$32B,8:POKE \$32B,9:POKE \$32B,10:POKE \$32B,11:POKE \$32B,12:POKE \$32B,13:POKE \$32B,14:POKE \$32B,15:POKE \$32B,16:POKE \$32B,17:POKE \$32B,18:POKE \$32B,19:POKE \$32B,20:POKE \$32B,21:POKE \$32B,22:POKE \$32B,23:POKE \$32B,24:POKE \$32B,25:POKE \$32B,26:POKE \$32B,27:POKE \$32B,28:POKE \$32B,29:POKE \$32B,30:POKE \$32B,31:POKE \$32B,32:POKE \$32B,33:POKE \$32B,34:POKE \$32B,35:POKE \$32B,36:POKE \$32B,37:POKE \$32B,38:POKE \$32B,39:POKE \$32B,40:POKE \$32B,41:POKE \$32B,42:POKE \$32B,43:POKE \$32B,44:POKE \$32B,45:POKE \$32B,46:POKE \$32B,47:POKE \$32B,48:POKE \$32B,49:POKE \$32B,50:POKE \$32B,51:POKE \$32B,52:POKE \$32B,53:POKE \$32B,54:POKE \$32B,55:POKE \$32B,56:POKE \$32B,57:POKE \$32B,58:POKE \$32B,59:POKE \$32B,60:POKE \$32B,61:POKE \$32B,62:POKE \$32B,63:POKE \$32B,64:POKE \$32B,65:POKE \$32B,66:POKE \$32B,67:POKE \$32B,68:POKE \$32B,69:POKE \$32B,70:POKE \$32B,71:POKE \$32B,72:POKE \$32B,73:POKE \$32B,74:POKE \$32B,75:POKE \$32B,76:POKE \$32B,77:POKE \$32B,78:POKE \$32B,79:POKE \$32B,80:POKE \$32B,81:POKE \$32B,82:POKE \$32B,83:POKE \$32B,84:POKE \$32B,85:POKE \$32B,86:POKE \$32B,87:POKE \$32B,88:POKE \$32B,89:POKE \$32B,90:POKE \$32B,91:POKE \$32B,92:POKE \$32B,93:POKE \$32B,94:POKE \$32B,95:POKE \$32B,96:POKE \$32B,97:POKE \$32B,98:POKE \$32B,99:POKE \$32B,100:POKE \$32B,101:POKE \$32B,102:POKE \$32B,103:POKE \$32B,104:POKE \$32B,105:POKE \$32B,106:POKE \$32B,107:POKE \$32B,108:POKE \$32B,109:POKE \$32B,110:POKE \$32B,111:POKE \$32B,112:POKE \$32B,113:POKE \$32B,114:POKE \$32B,115:POKE \$32B,116:POKE \$32B,117:POKE \$32B,118:POKE \$32B,119:POKE \$32B,120:POKE \$32B,121:POKE \$32B,122:POKE \$32B,123:POKE \$32B,124:POKE \$32B,125:POKE \$32B,126:POKE \$32B,127:POKE \$32B,128:POKE \$32B,129:POKE \$32B,130:POKE \$32B,131:POKE \$32B,132:POKE \$32B,133:POKE \$32B,134:POKE \$32B,135:POKE \$32B,136:POKE \$32B,137:POKE \$32B,138:POKE \$32B,139:POKE \$32B,140:POKE \$32B,141:POKE \$32B,142:POKE \$32B,143:POKE \$32B,144:POKE \$32B,145:POKE \$32B,146:POKE \$32B,147:POKE \$32B,148:POKE \$32B,149:POKE \$32B,150:POKE \$32B,151:POKE \$32B,152:POKE \$32B,153:POKE \$32B,154:POKE \$32B,155:POKE \$32B,156:POKE \$32B,157:POKE \$32B,158:POKE \$32B,159:POKE \$32B,160:POKE \$32B,161:POKE \$32B,162:POKE \$32B,163:POKE \$32B,164:POKE \$32B,165:POKE \$32B,166:POKE \$32B,167:POKE \$32B,168:POKE \$32B,169:POKE \$32B,170:POKE \$32B,171:POKE \$32B,172:POKE \$32B,173:POKE \$32B,174:POKE \$32B,175:POKE \$32B,176:POKE \$32B,177:POKE \$32B,178:POKE \$32B,179:POKE \$32B,180:POKE \$32B,181:POKE \$32B,182:POKE \$32B,183:POKE \$32B,184:POKE \$32B,185:POKE \$32B,186:POKE \$32B,187:POKE \$32B,188:POKE \$32B,189:POKE \$32B,190:POKE \$32B,191:POKE \$32B,192:POKE \$32B,193:POKE \$32B,194:POKE \$32B,195:POKE \$32B,196:POKE \$32B,197:POKE \$32B,198:POKE \$32B,199:POKE \$32B,200:POKE \$32B,201:POKE \$32B,202:POKE \$32B,203:POKE \$32B,204:POKE \$32B,205:POKE \$32B,206:POKE \$32B,207:POKE \$32B,208:POKE \$32B,209:POKE \$32B,210:POKE \$32B,211:POKE \$32B,212:POKE \$32B,213:POKE \$32B,214:POKE \$32B,215:POKE \$32B,216:POKE \$32B,217:POKE \$32B,218:POKE \$32B,219:POKE \$32B,220:POKE \$32B,221:POKE \$32B,222:POKE \$32B,223:POKE \$32B,224:POKE \$32B,225:POKE \$32B,226:POKE \$32B,227:POKE \$32B,228:POKE \$32B,229:POKE \$32B,230:POKE \$32B,231:POKE \$32B,232:POKE \$32B,233:POKE \$32B,234:POKE \$32B,235:POKE \$32B,236:POKE \$32B,237:POKE \$32B,238:POKE \$32B,239:POKE \$32B,240:POKE \$32B,241:POKE \$32B,242:POKE \$32B,243:POKE \$32B,244:POKE \$32B,245:POKE \$32B,246:POKE \$32B,247:POKE \$32B,248:POKE \$32B,249:POKE \$32B,250:POKE \$32B,251:POKE \$32B,252:POKE \$32B,253:POKE \$32B,254:POKE \$32B,255:POKE \$32B,256:POKE \$32B,257:POKE \$32B,258:POKE \$32B,259:POKE \$32B,260:POKE \$32B,261:POKE \$32B,262:POKE \$32B,263:POKE \$32B,264:POKE \$32B,265:POKE \$32B,266:POKE \$32B,267:POKE \$32B,268:POKE \$32B,269:POKE \$32B,270:POKE \$32B,271:POKE \$32B,272:POKE \$32B,273:POKE \$32B,274:POKE \$32B,275:POKE \$32B,276:POKE \$32B,277:POKE \$32B,278:POKE \$32B,279:POKE \$32B,280:POKE \$32B,281:POKE \$32B,282:POKE \$32B,283:POKE \$32B,284:POKE \$32B,285:POKE \$32B,286:POKE \$32B,287:POKE \$32B,288:POKE \$32B,289:POKE \$32B,290:POKE \$32B,291:POKE \$32B,292:POKE \$32B,293:POKE \$32B,294:POKE \$32B,295:POKE \$32B,296:POKE \$32B,297:POKE \$32B,298:POKE \$32B,299:POKE \$32B,300:POKE \$32B,301:POKE \$32B,302:POKE \$32B,303:POKE \$32B,304:POKE \$32B,305:POKE \$32B,306:POKE \$32B,307:POKE \$32B,308:POKE \$32B,309:POKE \$32B,310:POKE \$32B,311:POKE \$32B,312:POKE \$32B,313:POKE \$32B,314:POKE \$32B,315:POKE \$32B,316:POKE \$32B,317:POKE \$32B,318:POKE \$32B,319:POKE \$32B,320:POKE \$32B,321:POKE \$32B,322:POKE \$32B,323:POKE \$32B,324:POKE \$32B,325:POKE \$32B,326:POKE \$32B,327:POKE \$32B,328:POKE \$32B,329:POKE \$32B,330:POKE \$32B,331:POKE \$32B,332:POKE \$32B,333:POKE \$32B,334:POKE \$32B,335:POKE \$32B,336:POKE \$32B,337:POKE \$32B,338:POKE \$32B,339:POKE \$32B,340:POKE \$32B,341:POKE \$32B,342:POKE \$32B,343:POKE \$32B,344:POKE \$32B,345:POKE \$32B,346:POKE \$32B,347:POKE \$32B,348:POKE \$32B,349:POKE \$32B,350:POKE \$32B,351:POKE \$32B,352:POKE \$32B,353:POKE \$32B,354:POKE \$32B,355:POKE \$32B,356:POKE \$32B,357:POKE \$32B,358:POKE \$32B,359:POKE \$32B,360:POKE \$32B,361:POKE \$32B,362:POKE \$32B,363:POKE \$32B,364:POKE \$32B,365:POKE \$32B,366:POKE \$32B,367:POKE \$32B,368:POKE \$32B,369:POKE \$32B,370:POKE \$32B,371:POKE \$32B,372:POKE \$32B,373:POKE \$32B,374:POKE \$32B,375:POKE \$32B,376:POKE \$32B,377:POKE \$32B,378:POKE \$32B,379:POKE \$32B,380:POKE \$32B,381:POKE \$32B,382:POKE \$32B,383:POKE \$32B,384:POKE \$32B,385:POKE \$32B,386:POKE \$32B,387:POKE \$32B,388:POKE \$32B,389:POKE \$32B,390:POKE \$32B,391:POKE \$32B,392:POKE \$32B,393:POKE \$32B,394:POKE \$32B,395:POKE \$32B,396:POKE \$32B,397:POKE \$32B,398:POKE \$32B,399:POKE \$32B,400:POKE \$32B,401:POKE \$32B,402:POKE \$32B,403:POKE \$32B,404:POKE \$32B,405:POKE \$32B,406:POKE \$32B,407:POKE \$32B,408:POKE \$32B,409:POKE \$32B,410:POKE \$32B,411:POKE \$32B,412:POKE \$32B,413:POKE \$32B,414:POKE \$32B,415:POKE \$32B,416:POKE \$32B,417:POKE \$32B,418:POKE \$32B,419:POKE \$32B,420:POKE \$32B,421:POKE \$32B,422:POKE \$32B,423:POKE \$32B,424:POKE \$32B,425:POKE \$32B,426:POKE \$32B,427:POKE \$32B,428:POKE \$32B,429:POKE \$32B,430:POKE \$32B,431:POKE \$32B,432:POKE \$32B,433:POKE \$32B,434:POKE \$32B,435:POKE \$32B,436:POKE \$32B,437:POKE \$32B,438:POKE \$32B,439:POKE \$32B,440:POKE \$32B,441:POKE \$32B,442:POKE \$32B,443:POKE \$32B,444:POKE \$32B,445:POKE \$32B,446:POKE \$32B,447:POKE \$32B,448:POKE \$32B,449:POKE \$32B,450:POKE \$32B,451:POKE \$32B,452:POKE \$32B,453:POKE \$32B,454:POKE \$32B,455:POKE \$32B,456:POKE \$32B,457:POKE \$32B,458:POKE \$32B,459:POKE \$32B,460:POKE \$32B,461:POKE \$32B,462:POKE \$32B,463:POKE \$32B,464:POKE \$32B,465:POKE \$32B,466:POKE \$32B,467:POKE \$32B,468:POKE \$32B,469:POKE \$32B,470:POKE \$32B,471:POKE \$32B,472:POKE \$32B,473:POKE \$32B,474:POKE \$32B,475:POKE \$32B,476:POKE \$32B,477:POKE \$32B,478:POKE \$32B,479:POKE \$32B,480:POKE \$32B,481:POKE \$32B,482:POKE \$32B,483:POKE \$32B,484:POKE \$32B,485:POKE \$32B,486:POKE \$32B,487:POKE \$32B,488:POKE \$32B,489:POKE \$32B,490:POKE \$32B,491:POKE \$32B,492:POKE \$32B,493:POKE \$32B,494:POKE \$32B,495:POKE \$32B,496:POKE \$32B,497:POKE \$32B,498:POKE \$32B,499:POKE \$32B,500:POKE \$32B,501:POKE \$32B,502:POKE \$32B,503:POKE \$32B,504:POKE \$32B,505:POKE \$32B,506:POKE \$32B,507:POKE \$32B,508:POKE \$32B,509:POKE \$32B,510:POKE \$32B,511:POKE \$32B,512:POKE \$32B,513:POKE \$32B,514:POKE \$32B,515:POKE \$32B,516:POKE \$32B,517:POKE \$32B,518:POKE \$32B,519:POKE \$32B,520:POKE \$32B,521:POKE \$32B,522:POKE \$32B,523:POKE \$32B,524:POKE \$32B,525:POKE \$32B,526:POKE \$32B,527:POKE \$32B,528:POKE \$32B,529:POKE \$32B,530:POKE \$32B,531:POKE \$32B,532:POKE \$32B,533:POKE \$32B,534:POKE \$32B,535:POKE \$32B,536:POKE \$32B,537:POKE \$32B,538:POKE \$32B,539:POKE \$32B,540:POKE \$32B,541:POKE \$32B,542:POKE \$32B,543:POKE \$32B,544:POKE \$32B,545:POKE \$32B,546:POKE \$32B,547:POKE \$32B,548:POKE \$32B,549:POKE \$32B,550:POKE \$32B,551:POKE \$32B,552:POKE \$32B,553:POKE \$32B,554:POKE \$32B,555:POKE \$32B,556:POKE \$32B,557:POKE \$32B,558:POKE \$32B,559:POKE \$32B,560:POKE \$32B,561:POKE \$32B,562:POKE \$32B,563:POKE \$32B,564:POKE \$32B,565:POKE \$32B,566:POKE \$32B,567:POKE \$32B,568:POKE \$32B,569:POKE \$32B,570:POKE \$32B,571:POKE \$32B,572:POKE \$32B,573:POKE \$32B,574:POKE \$32B,575:POKE \$32B,576:POKE \$32B,577:POKE \$32B,578:POKE \$32B,579:POKE \$32B,580:POKE \$32B,581:POKE \$32B,582:POKE \$32B,583:POKE \$32B,584:POKE \$32B,585:POKE \$32B,586:POKE \$32B,587:POKE \$32B,588:POKE \$32B,589:POKE \$32B,590:POKE \$32B,591:POKE \$32B,592:POKE \$32B,593:POKE \$32B,594:POKE \$32B,595:POKE \$32B,596:POKE \$32B,597:POKE \$32B,598:POKE \$32B,599:POKE \$32B,600:POKE \$32B,601:POKE \$32B,602:POKE \$32B,603:POKE \$32B,604:POKE \$32B,605:POKE \$32B,606:POKE \$32B,607:POKE \$32B,608:POKE \$32B,609:POKE \$32B,610:POKE \$32B,611:POKE \$32B,612:POKE \$32B,613:POKE \$32B,614:POKE \$32B,615:POKE \$32B,616:POKE \$32B,617:POKE \$32B,618:POKE \$32B,619:POKE \$32B,620:POKE \$32B,621:POKE \$32B,622:POKE \$32B,623:POKE \$32B,624:POKE \$32B,625:POKE \$32B,626:POKE \$32B,627:POKE \$32B,628:POKE \$32B,629:POKE \$32B,630:POKE \$32B,631:POKE \$32B,632:POKE \$32B,633:POKE \$32B,634:POKE \$32B,635:POKE \$32B,636:POKE \$32B,637:POKE \$32B,638:POKE \$32B,639:POKE \$32B,640:POKE \$32B,641:POKE \$32B,642:POKE \$32B,643:POKE \$32B,644:POKE \$32B,645:POKE \$32B,646:POKE \$32B,647:POKE \$32B,648:POKE \$32B,649:POKE \$32B,650:POKE \$32B,651:POKE \$32B,652:POKE \$32B,653:POKE \$32B,654:POKE \$32B,655:POKE \$32B,656:POKE \$32B,657:POKE \$32B,658:POKE \$32B,659:POKE \$32B,660:POKE \$32B,661:POKE \$32B,662:POKE \$32B,663:POKE \$32B,664:POKE \$32B,665:POKE \$32B,666:POKE \$32B,667:POKE \$32B,668:POKE \$32B,669:POKE \$32B,670:POKE \$32B,671:POKE \$32B,672:POKE \$32B,673:POKE \$32B,674:POKE \$32B,675:POKE \$32B,676:POKE \$32B,677:POKE \$32B,678:POKE \$32B,679:POKE \$32B,680:POKE \$32B,681:POKE \$32B,682:POKE \$32B,683:POKE \$32B,684:POKE \$32B,685:POKE \$32B,686:POKE \$32B,687:POKE \$32B,688:POKE \$32B,689:POKE \$32B,690:POKE \$32B,691:POKE \$32B,692:POKE \$32B,693:POKE \$32B,694:POKE \$32B,695:POKE \$32B,696:POKE \$32B,697:POKE \$32B,698:POKE \$32B,699:POKE \$32B,700:POKE \$32B,701:POKE \$32B,702:POKE \$32B,703:POKE \$32B,704:POKE \$32B,705:POKE \$32B,706:POKE \$32B,707:POKE \$32B,708:POKE \$32B,709:POKE \$32B,710:POKE \$32B,711:POKE \$32B,712:POKE \$32B,713:POKE \$32B,714:POKE \$32B,715:POKE \$32B,716:POKE \$32B,717:POKE \$32B,718:POKE \$32B,719:POKE \$32B,720:POKE \$32B,721:POKE \$32B,722:POKE \$32B,723:POKE \$32B,724:POKE \$32B,725:POKE \$32B,726:POKE \$32B,727:POKE \$32B,728:POKE \$32B,729:POKE \$32B,730:POKE \$32B,731:POKE \$32B,732:POKE \$32B,733:POKE \$32B,734:POKE \$32B,735:POKE \$32B,736:POKE \$32B,737:POKE \$32B,738:POKE \$32B,739:POKE \$32B,740:POKE \$32B,741:POKE \$32B,742:POKE \$32B,743:POKE \$32B,744:POKE \$32B,745:POKE \$32B,746:POKE \$32B,747:POKE \$32B,748:POKE \$32B,749:POKE \$32B,750:POKE \$32B,751:POKE \$32B,752:POKE \$32B,753:POKE \$32B,754:POKE \$32B,755:POKE \$32B,756:POKE \$32B,757:POKE \$32B,758:POKE \$32B,759:POKE \$32B,760:POKE \$32B,761:POKE \$32B,762:POKE \$32B,763:POKE \$32B,764:POKE \$32B,765:POKE \$32B,766:POKE \$32B,767:POKE \$32B,768:POKE \$32B,769:POKE \$32B,770:POKE \$32B,771:POKE \$32B,772:POKE \$32B,773:POKE \$32B,774:POKE \$32B,775:POKE \$32B,776:POKE \$32B,777:POKE \$32B,778:POKE \$32B,779:POKE \$32B,780:POKE \$32B,781:POKE \$32B,782:POKE \$32B,783:POKE \$32B,784:POKE \$32B,785:POKE \$32B,786:POKE \$32B,787:POKE \$32B,788:POKE \$32B,789:POKE \$32B,790:POKE \$32B,791:POKE \$32B,792:POKE \$32B,793:POKE \$32B,794:POKE \$32B,795:POKE \$32B,796:POKE \$32B,797:POKE \$32B,798:POKE \$32B,799:POKE \$32B,800:POKE \$32B,801:POKE \$32B,802:POKE \$32B,803:POKE \$32B,804:POKE \$32B,805:POKE \$32B,806:POKE \$32B,807:POKE \$32B,808:POKE \$32B,809:POKE \$32B,810:POKE \$32B,811:POKE \$32B,812:POKE \$32B,813:POKE \$32B,814:POKE \$32B,815:POKE \$32B,816:POKE \$32B,817:POKE \$32B,818:POKE \$32B,819:POKE \$32B,820:POKE \$32B,821:POKE \$32B,822:POKE \$32B,823:POKE \$32B,824:POKE \$32B,825:POKE \$32B,826:POKE \$32B,827:POKE \$32B,828:POKE \$32B,829:POKE \$32B,830:POKE \$32B,831:POKE \$32B,832:POKE \$32B,833:POKE \$32B,834:POKE \$32B,835:POKE \$32B,836:POKE \$32B,837:POKE \$32B,838:POKE \$32B,839:POKE \$32B,840:POKE \$32B,841:POKE \$32B,842:POKE \$32B,843:POKE \$32B,844:POKE \$32B,845:POKE \$32B,846:POKE \$32B,847:POKE \$32B,848:POKE \$32B,849:POKE \$32B,850:POKE \$32B,851:POKE \$32B,852:POKE \$32B,853:POKE \$32B,854:POKE \$32B,855:POKE \$32B,856:POKE \$32B,857:POKE \$32B,858:POKE \$32B,859:POKE \$32B,860:POKE \$32B,861:POKE \$32B,862:POKE \$32B,863:POKE \$32B,864:POKE \$32B,865:POKE \$32B,866:POKE \$32B,867:POKE \$32B,868:POKE \$32B,869:POKE \$32B,870:POKE \$32B,871:POKE \$32B,872:POKE \$32B,873:POKE \$32B,874:POKE \$32B,875:POKE \$32B,876:POKE \$32B,877:POKE \$32B,878:POKE \$32B,879:POKE \$32B,880:POKE \$32B,881:POKE \$32B,882:POKE \$32B,883:POKE \$32B,884:POKE \$32B,885:POKE \$32B,886:POKE \$32B,887:POKE \$32B,888:POKE \$32B,889:POKE \$32B,890:POKE \$32B,891:POKE \$32B,892:POKE \$32B,893:POKE \$32B,894:POKE \$32B,895:POKE \$32B,896:POKE \$32B,897:POKE \$32B,898:POKE \$32B,899:POKE \$32B,900:POKE \$32B,901:POKE \$32B,902:POKE \$32B,903:POKE \$32B,904:POKE \$32B,905:POKE \$32B,906:POKE \$32B,907:POKE \$32B,908:POKE \$32B,909:POKE \$32B,910:POKE \$32B,911:POKE \$32B,912:POKE \$32B,913:POKE \$32B,914:POKE \$32B,915:POKE \$32B,916:POKE \$32B,917:POKE \$32B,918:POKE \$32B,919:POKE \$32B,920:POKE \$32B,921:POKE \$32B,922:POKE \$32B,923:POKE \$32B,924:POKE \$32B,925:POKE \$32B,926:POKE \$32B,927:POKE \$32B,928:POKE \$32B,929:POKE \$32B,930:POKE \$32B,931:POKE \$32B,932:POKE \$32B,933:POKE \$32B,934:POKE \$32B,935:POKE \$32B,936:POKE \$32B,937:POKE \$32B,938:POKE \$32B,939:POKE \$32B,940:POKE \$32B,941:POKE \$32B,942:POKE \$32B,943:POKE \$32B,944:POKE \$32B,945:POKE \$32B,946:POKE \$32B



Diary for your dates

The idea of putting a diary on disk is an attractive one (especially to politicians, who can adjust their diaries in retrospect to make sure they, ahem, accurately reflect the events of the time).

DATAIARY (their spelling, not mine!) is a diary with pages ruled in LocoScript 2 containing all that vital information about tides, lighting up times and Independence Days in Burkina Faso and so on. Comes in A4 or 'Filofax' sizes. It's constantly updated and runs 12 months from the point of purchase. A bit pricey though at £16.95.

Deviser Laurence Upton says he also does PCW troubleshooting in the Bath/Bristol area; details on 0249 815082

Existence; being; essence

Dave Watson of Cumbria asks me if there exists a thesaurus for the PCW. The answer is more one of definition than anything else. Database Software has advertised one since February but it's always "two weeks away" when you ask them. Details anyway on 0625 878888. Thesaurus buffs will note that 'existence' is the very first section in Roget's book and 'non-existence' the second.

Definitely existence is Three Inch

software's Thesaurus - but it's a LocoFile data file, so you must have LocoFile, and it doesn't work on an 8256, and at £14.95 it's rather pricey - but if you can't wait for Database's, call 01 829 9219.

Fewer notes

The Composer's Pen - which lets you put together music manuscripts on screen and print them out - has fewer notes than we said two weeks ago, but only paper ones. Not £300, but just £65, with a cut-down version for £25! Details on 0952 586979 or 021 456 1967.

I've stopped so I'll finish

To stop a BASIC listing or program midstream, press [F5]; [F3] resumes from where you stopped. Better than pressing [STOP] which abandons the operation completely.

Basil Pigg

From the Pigg book of records

WORST PROGRAM
The worst ever commercially released program for the PCW is a matter of opinion. Contenders could be Digital's E-Type, a typewriter emulator which had fewer features than LocoScript's free typewriter mode, cost £24.95, and WordStar 4 (which cost £194.35 but could only print out a sign as :- perhaps the real price was £94.35).

Do you know any PCW superlatives? Send to: The Pigg Book of Records, New Computer Express, Queen St, Ram, BA1 1EJ.



Overheating

With summer on its way, many QL users, especially those who have expanded their systems with something like the Miracle Trumpcard, will experience problems caused by overheating. One common cause of overheating is the voltage delivered by the power supply being too high - the excess volts are dissipated in the QL voltage regulator - heat. The addition of an expansion unit means even more heat is generated, aggravating the problem.

One solution is to replace the power supply by one with a lower output, such as Care Electronics' O Power, which costs £23. Care is on (0923) 672102.

Another, lower-cost, solution is to replace the regulator in the QL by one which can handle more current. TK Computerware sells a suitable device for £4.75.

TK is on (0303 81) 2801. This does involve opening up the case, of course, but no soldering is required.

PDQC

PDQL's new Lattice C implementation for the QL and Thor should be ready by the time this issue is published.

Whilst the original Lattice C supplied by Metamoo was reasonably usable, it had several very annoying bugs. For instance,

register variables didn't work. The versions of Small C available from GST and Digital Precision, whilst adequate for learning the language, are unsuitable for serious software development, so the availability of PDQC is to be welcomed. The price will be around £60. PDQL is on 021-200 2313.

More bugs

● The command 'DIR mdv8.' prevents 'DIR mdv2.' from working properly.

● If a program "bombs out" in the middle of a procedure, typing 'EDIT' will give a "not implemented" error message, and you will find yourself editing a line number that is not in your program.

A portable QL?

A long time ago I recall seeing a portable QL, cobbled together by a Quanta member, who had to be a bit of a traveller in connection with his job.

He had the QL mounted in an executive-style case with several NiCad rechargeable cells and a Sinclair pocket TV for display. You needed good eyesight to read anything off the TV screen, but it was still quite usable, and gave something like one hour's worth of computing before the cells ran out of juice.

Something similar might be possible using one of the new LCD pocket TVs for display. Has anyone tried this?

● This has to be the weirdest bug of all. Very occasionally, all your variable names get overwritten by the word 'PRINT'. This has happened to me on a few occasions, and it is quite infuriating.

John Torofex

01- 803 0893
Computers

55 Harrow Drive, Edmonton, London N9 9EQ

| AMIGA | | ATARI ST | |
|--|--|--|--|
| "SOFTWARE PACK" Workbench 1.3 Free Modulator £230 worth Software £369 | "EXPANSION PACK" FREE Modulator 1/2 meg RAM Dragon's Lair £479 | "EXPLORER PACK" 1 meg disk drive mouse Ranarama game £265 | "POWER PACK" £550 Software inc Afterburner R-Type, Pacmania £339 |
| SPECIAL PRICE | | | |
| PHILIPS CM8833 £218 | Modems, Scanners, Samplers, Digitisers "Discount prices" £ PHONE | | |
| 10 3 1/2 DD/DS Disks £8.99 50 3 1/2" DD/DS Disks £37.99 Cruiser Joystick £6.99 Pro 5000 Joystick £10.99 Speedking (auto) joystick £9.50 Navigator Joystick £10.99 | | ST Afterburner 9.99 16.75 Archipelagos 15.50 15.50 Bio-Challenge 15.50 15.50 Dragon Ninja 12.50 15.50 Gaidregons Domain 12.50 12.50 I.S.S. 9.99 9.99 Millennium 2.2 16.99 16.99 Operation Wolf 12.50 15.50 Popules 16.99 16.99 Precious Metal 15.50 15.50 Purple Saturn Day 8.99 8.99 Robocop 12.50 15.50 Running Man 15.50 15.50 Voyager 12.50 15.50 | |

ALL PRICES INCLUDE VAT and P&P. CHEQUES P.O.'s PAYABLE MEDUSA COMPUTERS

MAIN MEDIA
FREEPOST, ANDOVER, HANTS. SP10 4BR
Tel: 0264 333830 (24 hrs)

UNBRANDED LIFETIME GUARANTEE

| | QUANTITY | 10 | 20 | 30 | 40 | 50 | 100 |
|--------------|----------|-------|--------|--------|--------|--------|--------|
| 3 1/2" SS/DD | 135TPI | £7.95 | £15.50 | £22.75 | £29.50 | £35.75 | £69.95 |
| 3 1/2" DS/DD | 135TPI | £8.50 | £16.50 | £23.95 | £31.25 | £37.95 | £74.95 |

| | QUANTITY | 25 | 50 | 100 | 250 | 500 |
|--------------|----------|-------|--------|--------|--------|---------|
| 5 1/4" DS/DD | 48TPI | £7.25 | £13.95 | £26.95 | £64.95 | £124.95 |
| 5 1/4" DS/QD | 96TPI | £7.95 | £15.50 | £29.95 | £77.50 | £139.95 |

All 3 1/2" Disks come complete with labels. All 5 1/4" Disks supplied with Write Protect Tabs, labels and envelopes and come with our No Quibble Money Back or Replacement Guarantee.

Main Media, 1 Weatherby Gardens, Charlton, Hants

DISKETTE STORAGE BOXES

| | Price Each |
|--------------|---------------------------|
| 50 x 5 1/4" | Hinged Lid Lockable £5.50 |
| 100 x 5 1/4" | Hinged Lid Lockable £7.50 |
| 140 x 5 1/4" | Hinged Lid Lockable £9.50 |
| 50 x 3 1/2" | Hinged Lid Lockable £5.50 |
| 100 x 3 1/2" | Hinged Lid Lockable £7.50 |

DISK BOXES WITH DISKS

| 50 x 5 1/4" | Hinged Lid Lockable with | 25 DS/DD | 48TPI | £11.95 | |
|--------------|--------------------------|-----------|--------|--------|--|
| 50 x 5 1/4" | Hinged Lid Lockable with | 25 DS/QD | 96TPI | £12.75 | |
| 100 x 5 1/4" | Hinged Lid Lockable with | 50 DS/DD | 48TPI | £20.95 | |
| 100 x 5 1/4" | Hinged Lid Lockable with | 50 DS/QD | 96TPI | £22.50 | |
| 140 x 5 1/4" | Hinged Lid Lockable with | 100 DS/DD | 48TPI | £35.95 | |
| 140 x 5 1/4" | Hinged Lid Lockable with | 100 DS/QD | 96TPI | £38.95 | |
| 50 x 3 1/2" | Hinged Lid Lockable with | 20 DS/DD | 135TPI | £21.50 | |
| 100 x 3 1/2" | Hinged Lid Lockable with | 50 DS/DD | 135TPI | £44.95 | |

All prices include VAT and Carriage. All Goods despatched within 24 hours subject to availability.

Cheques/P.O.'s to: MAIN MEDIA
FREEPOST
ANDOVER, HANTS. SP10 4BR
Tel: Credit Card Hotline 0264 333830 (24 hrs)

With Pal TV Converter and TV Booster!

NOW ONLY £159.95 inc VAT (+£5.00 P&P)
Mention sell the official PC Engine and have exclusive rights to PAL TV converters
PC Engines have a full 1 year NEC guarantee

SPECIAL OFFER!!

| | | | |
|-----------|-------|-------------|-------|
| Deep Blue | 19.95 | *Moto Racer | 19.95 |
| *Pilot | 19.95 | *Honey Sky | 19.95 |

(+£1.50 P&P Software order)
*These Titles work on the 1 player adaptor which is also in stock for £19.95 (+£1.50 P&P)

SEGA MEGA DRIVE AVAILABLE NOW ONLY £179.95 (+£5.00 P&P) SCART.
SIX SOFTWARE TITLES AVAILABLE BETWEEN £24.95-29.95

CD ROM UNITS ONLY £299.95!!! (+£5.00 P&P)

NEW!!! - THE PC ENGINE AND NINTENDO SUPER JOYSTICK FOR ONLY £24.95 (+£2.00 P&P)
Cheques and Postal Orders 5 A.E. for details to

SEGA Trade Enquiries Welcome

Mention
29 Malcolm Place, Helensburgh, G84 9HW

Mention Technical Services bank with: The Royal Bank of Scotland 2 Colquhoun Square, Helensburgh, G84 8SJ

BEEB BOX

Anti Auntie

There seems to be some attempt at resurrecting the title 'BBC Micro' for the series 3000 machine.

What a dumb idea! I am sure nobody ever liked that name; it reminds me of 'Auntie BBC' in too many ways. In fact the whole idea of keeping the BBC logo sucks, as far as this reviewer is concerned.

By the way, Acorn has had a few problems with early samples. Three dud keys, a sticking reset button, and an impossible to fit mouse connector cropped up on the unit I saw recently. Let's hope this is not typical.

If you think an A3000 is expensive, *Illustrator88* for the Macintosh costs £550, whereas *Draw* comes free! with the Arc.

Down from the trees

BBC Soft has released a genealogical program called *Kinship*. Aimed at the educational market, *Kinship* comes complete with a database for the royal family going back to Henry VII.

However, you can create your own files, so anyone with an interest in family history can make use of it. Only Master 128 owners will be able to run *Kinship*, though, as it utilises both Sideways RAM, and ADFS. All the usual options are supported, including sideways printing of charts. One nice feature is the user

file, which allows quite extensive notes to be made about each subject.

There is always a danger in using programs like this - it could make those family reunions even more excruciating. So if you see your uncle Derek walking down the garden path clutching great wads of paper underneath his arm, make a run for it!

Andrew Brown

Shareware solution

The world of the BBC micro has never had much to do with Public Domain (PD) and shareware. Plentiful and cheap software is one thing, and software piracy another. It's sad to say, but often the worst culprits are those who should uphold a higher standard - teachers. It's a well-worn cliché that a visitor to the staffroom is more likely to be greeted with choruses of "Sixteen men on a dead man's chest" than "All creatures great and small".

In their defence, though, teachers usually become pirates - the best of motives - woefully small budgets being the main one. This was not a problem in the past. Now though, with less attention being paid to the machine by big software houses, the situation is becoming more serious. In short, small publishers cannot afford to pay exorbitant launch costs, then see profits nibbled away by piracy. What could eventually happen is that software will dry up altogether.

No easy solution, but I do suggest that the time has come for independent software houses to reassess the PD/shareware model. Co-operative action here might provide salvation for some, and plenty of software for the foreseeable future for the rest of us.

MSX

Errors syntax

I received a letter from a Mr McIntosh, from Halstead, Essex, in which he mentions trying to obtain a copy of a book I recommended. *The Complete MSX Programmers Guide* is out in print, but his local library had found him a copy. He then said in his letter that he thought that *MSX Made Simple*, by Margaret Norman, was a much better buy, because *The Programmers Guide* was full of errors in syntax, some of which he pointed out and gave page numbers for. I've cross-checked some of Mr McIntosh's examples, and none of them appear in my copy. I can only suppose, then, that the copy he received was an early print, since amended. Some copies of this book were ring-bound, while the copy I have is a paperback. I presume that Mr McIntosh has the former.

Pole position

A few weeks ago I reviewed *MSX Out Run*, and my opinion was that it could have been much improved and that Imagine's *WEC Le Mans* should be a better prospect. Well, I was right. The graphics and playability, *Out Run* is totally outclassed. *WEC Le Mans* is faster, has smoother scrolling, and follows the original coin-op more closely.

It's a "simulation" of the Le Mans 24-hour race, and if you don't reach the end of a stage inside a set time, you are out of the race. Although little use of colour is made on the MSX version, the cars and roadside features are well-drawn. The only concession to monochrome colours is your blue Porsche. The scrolling of the track and cars is first class, as good as anything I have seen on the MSX1, and the sound is very good too - engine revs soon let you know when to change gear.

If you are looking for a good car racing game for your MSX, look no further. *Ocean/Imagine* is certainly writing some good games at the moment - now if I can only sort out the problem of some of the games failing to run on certain MSXs, I would be even happier.

MSX UK calls a halt

Sad news this week regarding the MSX user group MSX UK. Apparently, although the group has been in existence for some time, it has not been the success that its founder - Craig Bell - had hoped for. I believe that Craig will continue to keep an interest in MSX, and I hope will pass on any items of MSX news that come his way. Sorry to see you go, Craig, and wish you success in any future venture.

Pac up your troubles

I have just received a copy of *Grandslam's Pac-Land* for review, and found that the loading instructions printed on the insert are wrong. The correct loading instructions should be `BLOAD"CAS".r` and not `Load` as printed. This is getting quite common, as the loading instructions with *WEC Le Mans* were also wrong. Anyway, watch this space for my impression of *Pac Land*.

Keith Neal

16 BIT CENTRE

SPECIAL OFFER !!

RAM EXPANSION 8501 FOR AMIGA £115.00

(ALL PRICES INCLUDE VAT AND DELIVERY)

Atari STFM Power Pack
Super Hang On, Double Dragon, R-Type, After Burner,
and 16 Other Games Plus ST Organiser
ONLY £339.00

Philips 8833 Stereo Monitor inc. Lead
ONLY £219.00

Amiga Ten Star Pack inc. Modulator, W.B. 1.3, Carrier
Command, Gold Runner & Spritz Paint Package.
ONLY £399.00

ATARI 1040
ONLY £419.00
(inc. Basic, Mouse, Manuals etc.)

OTHER HARDWARE

| | |
|--------------------------------|---------|
| Minigen (Amiga) | £105.00 |
| Citizen 120D Printer inc Lead | £139.00 |
| Citizen 180E Printer inc Lead | £179.00 |
| Star Mono Printer inc Lead | £199.00 |
| Star Colour Printer inc Lead | £249.00 |
| Star LC-24/10 Printer inc Lead | £319.00 |
| NEC P2200 24 Pin inc Lead | £319.00 |
| Commodore MPS1250 inc Lead | £319.00 |
| NEC Multisync Monitor/Lead | £527.00 |
| Commodore 1084 Monitor/Lead | £235.00 |
| Amiga B2000 | £964.00 |
| Commodore PC1 inc ABLE 1 S/W | £287.00 |
| Amstrad 1512 Colour Monitor | £499.00 |
| Cumana Disk Drive (ST/Amiga) | £99.00 |

SOFTWARE

| | |
|----------------------|---------|
| Workbench 1.3 | £14.95 |
| The Works (Amiga) | £69.00 |
| Kind Words V2 (AM) | £39.00 |
| Lattice C V5 (AM) | £165.00 |
| Fantavision (AM) | £29.00 |
| First Word Plus (ST) | £69.00 |
| Microsoft Write (ST) | £69.00 |
| Devpac II (AM/ST) | £48.00 |
| ST Replay V4 | £69.00 |
| Kodak 5.25 Disks*10 | £8.50 |
| Kodak 3.5 Disks*10 | £14.95 |
| Unbranded 3.5" Disks | |
| 10 | £9.45 |
| 25 | £23.00 |
| 50 | £45.00 |
| 100 | £85.00 |

16 BIT CENTRE

Unit 17, Lancashire Fittings
Science Village, Claro Road, Harrogate
N. Yorks. HG1 4AF
Tel: 0423 531822 / 0423 526322

BARCLAYCARD



EXPRESS EXPRESS EXPRESS

SAL

CAPITAL COMPUTERS EDINBURGH
12 Home Street, Toll Cross, Edinburgh
Tel 031 228 4410

ATARI * AMIGA * ARCHIMEDES * STAR
SONY DISKS * PD LIBRARY
SOFTWARE PERIPHERALS & REPAIRS

GLASGOW COMPUTER CENTRE
122, West Nile Street, Glasgow
Tel 041 332 8246

MISSION IMPOSSIBLE BBS
Megabytes of files to download
24 hours a day
resident professional
engineer for tech queries
latest OS files available
chip-off-suppliers section
0602-654329

EURO ST/AMIGA

State which computer
**HIRE AND PLAY LATEST ST HITS
FOR ONE WEEK!**
UK and Irish ST/AMIGA owners
Send your address
for more information to:
**EURO ST, KINSELLA HOUSE,
JOHNSTOWN, SEA ROAD, ARKLOW
CO. WICKLOW, EIRE.**

ASTROLOGY for beginners

Teach yourself astrology using your Computer

Buy a Starter Pack comprising a simple program to calculate a horoscope, an introductory booklet and 3 self-teaching programs (how to interpret the horoscope)

ONLY £12.50 No previous knowledge required
For ALL Amstrads, Atari ST's, BBC, Spectrum, C64,
Dragon, MSX and IBM.

Payment by Access/Visa, Cheque, P.O. PLEASE STATE MAKE OF COMPUTER
or send s.a.e. (about 9" x 7") for free catalogue giving details of our wide
range of programs for **PROFESSIONAL ASTROLOGERS** including
complete natal interpretations and forecasting.
Also **CHING, GRAPHOLOGY, BIORHYTHMS, etc.**

ASTROCALC

(Dept NCE) 67 Peasecroft Road, Hemel Hempstead,
Herts HP3 8ER England. Tel: 0442 51809

SINCLAIR SPARES, LEADS, PSU's

Original Manufacturers Spares
Send 1st class stamp for price list
**ACE REPAIRS, Outways Fm, Pelynt,
Looe, Cornwall, PL13 2NW.**
Tel: (0503) 20282

ATARI ST PUBLIC DOMAIN

Wordprocessors, Games, Utilities, Music,
Languages, Art, Educational
and even DTP progs from £1.75!
You'll be amazed at our Premier Service.
For a FREE catalogue send a 19p stamp to:
ALPHA COMPUTING
32 Meadow Drive, Halifax, W. Yorks HX3

S.F.A. COMPUTERS

AMSTRAD COMMODORE-CAMBRIDGE

Star LC10 Printer
£169.00 + VAT

Phone now for best prices
Access accepted
Unit 15, Abbey Mill Business Centre,
Seedhill Road, Paisley PA1 1JN
Tel: 041-840-1477

ONLY £2.35 each

PCW9512 carbon ribbons
LIMITED OFFER EX-STOCK
Max. 3 per customer. Must be shifted this week!
Cheque or P.O. to
**ALADDINK (Dept CE),
Eyemouth, Berwickshire, TD14 5AP**
Tel: 08907 50965

£8.00 for 10 DS/DD 3.5 Disks

DS/DD Unbranded (Verbatim manufactured)
£8.00 per lot inc. VAT P&P Full lifetime warranty
Same day despatch Guaranteed cheques P.O.'s
Best prices coming soon on Verbatim branded disks
Send s.a.e. for prices
Please note we have changed our name
**JOY OF LIFE ARTS: 45 ELSWICK, SKELMERSDALE,
LANCS. WN8 6BX TEL: 0695 24732**

EASY TEXT

Budget desktop publisher suitable for any
Atari ST mod and high res. and all 9 pin
Epson compatible dot matrix printers

Can import & extend clip art
"Easy Text DTP software from zzSoft
recently landed on my desk and boy is it
good" New Computer Express Issue 27

Only £14.99 P&P incl.
or details, or P.D. Demo
£3.00 P&P incl.

**zzSoft, 3, Riverdale House,
Mytholm Close, Hebden Bridge
W. Yorks, HX7 6BP**

0422.845528

COMPUTER REPAIRS & SALES

★ AMIGA ★ ATARI ★ COMPETITIVE PRICES ★

All types of home computers: Amstrad, Sinclair, etc. - prices from £7.00 inc. VAT and post
and packaging and three month guarantee
Also available spares software cables peripherals, etc.
SALE OF AMIGA AND ATARI COMPUTERS
Tel: (0702) 618455 for immediate estimate

**THE COMPUTER FACTORY, Analytic House Unit 18A,
Grainger Road Industrial Estate, Southend-on-Sea, Essex.**

★ SPECIAL OFFER ★

Special Amiga 500/500+ offer - £199.00 (incl. VAT)
Special Starter Pack with 10 disks, 10 pages of manuals,
Quality Disk, 100 pages of manuals, 100 pages of manuals,
when you buy an Amiga 500/500+
Existing Amiga owners can obtain our Special Pack for
£199.00 (incl. VAT)
Amiga 500/500+ Disk 100 pages of manuals, 100 pages of manuals,
AT Bridge Road, Ayr, Ayrshire, Scotland
For more details

QUADSOFT COMPUTERS
Unit 306, 203-213 Mare Street, London, E1 3QE
Tel: 01 533 5116/0860 564231

SUPERB SHAREWARE FOR THE IBM PC

Spring/Summer 1989
100% shareware
100% shareware
100% shareware
100% shareware

For your FREE copy write to:
ECS

**3 Ringwood Way,
Winchmore Hill,
London, N21 2RA**

NOVA

THE Bristol Amiga Disk Magazine
News, Reviews, Programs, Articles PD
Programs AND TEXT compressed by up to 65%!
Out Now - Only £5 for THREE DISKS including FREE
program disk. Cheques/P.O.'s payable to NOVA.
NOVA
4 Octavian House, Dashwood Road,
Banbury, Oxon. OX16 8HD

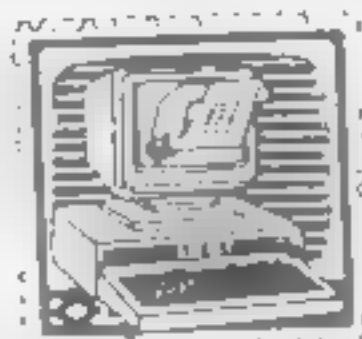
MAKE YOUR MICRO EARN !

Yes making money with your micro becomes incidental when you know how.
Your micro is, if only you knew it, a gold mine. The size and make is
irrelevant. Make the initial effort NOW by starting your own

HOME BASED BUSINESS

This may be the most important move you will ever make!

REMEMBER: You'll never get rich by digging someone else's "ditch".
Anyone in the country including YOU, can become very rich in a relatively
short period of time just by doing a few basic things! It's more rewarding than
playing games. The benefits are many and varied. Full or part time.
For FREE details send S.A.E. to:



HOME BASED BUSINESS

31 PILTON PLACE (NCE 4)
KING AND QUEEN STREET
WALWORTH, LONDON SE17 1DR



HEATH SALES, REPAIR, SPARES EST 1983 COMPUTERS

SPARES

| | |
|----------------|-------|
| 6510 | 8.95 |
| 6526 | 9.50 |
| 6581 | 11.25 |
| 6569 | 25.50 |
| Kernal ROM | 11.20 |
| Basic ROM | 12.20 |
| Char ROM | 8.25 |
| PLA | 9.75 |
| 8501 | 8.95 |
| 8360 | 21.50 |
| VIC 20 MOD | 14.00 |
| AMIGA SPARES | PHONE |
| CBM 128 SPARES | PHONE |
| 4164 RAM | PHONE |

REPAIRS

| | |
|----------------|-------|
| CBM 64 | 28.75 |
| CBM 16 | 28.75 |
| CBM 4 | 28.75 |
| CBM 128 | 34.50 |
| CBM 1541 | 28.75 |
| CBM PRINTERS | 28.75 |
| MICROVITEC MON | 34.50 |
| AMSTRAD CPC | 28.75 |
| CBM AMIGA | PHONE |

**WE REPAIR MOST
COMPUTERS AND
PERIPHERALS. PLEASE
PHONE**

SALES

| | |
|-----------------------------|--------|
| MINISCRIBE 32MB | 220.00 |
| MINISCRIBE 40MB | 230.00 |
| CBM CASSETTE | 28.75 |
| MICROMATE PSU | 24.95 |
| (FOR VIC20 + 64 REPAIRABLE) | |
| EPSON LX800 PRINTER | 185.00 |
| 3 1/2" DISK 5 1/4 FRAME | 85.00 |
| GENIUS MOUSE + PAINT | 50.00 |

**PHONE FOR BEST PRICES
ON PACKARD BELL PC's**

ALL PRICES INCLUDE VAT & P&P
REPAIRS 24HR TURNAROUND 3 MONTHS GUARANTEE

TEL: 021-707-7160

**HEATH COMPUTERS &
ELECTRONICS LTD
OFFICE 10, J-BOX
KINGS ROAD
TYSELEY
BIRMINGHAM B11 2AG**

LES

WANTED

ALL COMPUTER
HARDWARE/SOFTWARE WANTED
FOR CASH OR EXCHANGE
NOTHING REFUSED!!
01 727 0424

MICRO-TECH

COMPUTER TECHNOLOGY

19 NORTH AVE EASTBOURNE SUSSEX

TEL: 0323 411391

COMPUTERS BOUGHT SOLD
EXCHANGED

PC's, XT's, AT's, 286 and 386 Sold
and Network Systems Installed

YOUR FORMAT

MACHINE-SPECIFIC COLUMNS

ARCHIMEDES LORE

ARMed and ready

Now that Acorn is taking a stab at selling its Archies (well, the A3000 anyway) at a price that is just about affordable to the incredibly rich person in the street, the publisher of your favourite magazine decided that it might be a good idea to provide you with several column inches of your very own every fortnight there'll be a quarter page just for you. And now, after that amazing introduction, let's get down to it, shall we?

Manual boot

There must be thousands - OK, hundreds - of new Archie owners out there in Biggsville, many of them entirely new to the Acorn machine, who would dearly like to explore the inner depths of this performance micro but don't know where to start.

Well just for you Uncle Bert, the Dabbs Press has just published the *Archimedes Operating System* by Nic Van Someron, which is the definitive guide to the operating machine in your little silicon chum.

The book begins with a chapter detailing the history and development of the RISC operating system. All the more obscure aspects of RISC are dealt with in a thorough but easy to understand and clear manner which, although not for the complete beginner, it is written in a style that can be

assimilated with just a little application - switch off Pacmania and concentrate!

There are sections on the ARM processor with a full explanation of the instruction set, and the command syntax for ARM assembler.

Whether you're a BASIC programmer, assembly language programmer or both, this book is for you. There's even a chapter explaining how to use the two in unison within the machine.

Archimedes Operating System has lots of listings to help you get the most from the information in the book, but if you're like me and gave up typing in listings when you binned your ZX81, then send a few quid to Dabbs who will mail you a disk containing all the listings ready to use.

Acorny message

And now a message to all readers of this column. Write to me! Only by interaction can the column hope to be interesting and grow. If you've discovered some wrinkle to get an extra feature or turn of speed (!) from the Archie, let me know. If you've recently penned an incredible new software title, send me a copy for review. See you next time.

The *Archimedes Operating System* costs £14.95, and is published by Dabbs Press, which can be contacted on 061 766 8423.

Stop press

Acorn is about to release a brand new desk top publishing package at an affordable price. It offers lots of features such as allowing word processors and other programs to run in windows at the same time as the desk top publisher. More about it next time.

Lucy Brown

DATAWORLD

13 Trinity Street, Gainsborough, DN21 2AL
Tel: Gainsborough (0427) 810151

CALLERS WELCOME AT OUR SHOP



| ATARI ST | RRP | OUR PRICE | ATARI ST | RRP | OUR PRICE | AMIGA | RRP | OUR PRICE | AMIGA | RRP | OUR PRICE |
|--------------------------|--------|-----------|------------------------|--------|-----------|----------------------------|--------|-----------|------------------------------|--------|-----------|
| Afterburner..... | £19.99 | £13.99 | International Karate + | £19.99 | £13.99 | Bombuzal..... | £24.99 | £16.99 | Operation Wolf..... | £24.95 | £16.99 |
| Batman..... | £19.95 | £13.99 | Joan of Arc..... | £19.99 | £13.99 | Captain Blood..... | £24.95 | £16.99 | Pac-Mania..... | £19.99 | £13.99 |
| Bombuzal..... | £24.99 | £16.99 | Nether World..... | £19.95 | £13.99 | Chuckie Egg..... | £19.95 | £13.99 | R-Type..... | £24.99 | £16.99 |
| Chuckie Egg..... | £19.95 | £13.99 | Operation Wolf..... | £19.95 | £13.99 | Double Dragon..... | £19.99 | £13.99 | Speed Ball..... | £24.99 | £16.99 |
| Crazy Cars II..... | £19.99 | £13.99 | Pac Mania..... | £19.99 | £13.99 | Balance of Power 1990..... | £24.99 | £16.99 | Superman..... | £24.95 | £16.99 |
| Cosmic Pirate..... | £19.99 | £13.99 | R-Type..... | £19.99 | £13.99 | Crazy Cars II..... | £24.99 | £16.99 | T.V. Sports Football..... | £29.99 | £19.99 |
| Double Dragon..... | £19.99 | £13.99 | Speedball..... | £24.99 | £16.99 | F-16 Falcon..... | £29.99 | £19.99 | Technocop..... | £19.99 | £13.99 |
| F-16 Falcon..... | £24.99 | £16.99 | Superman..... | £24.99 | £16.99 | Hybris..... | £24.99 | £16.99 | Super Hang On..... | £24.99 | £16.99 |
| Flying Shark..... | £19.95 | £13.99 | Technocop..... | £19.99 | £13.99 | International Karate + | £24.99 | £16.99 | U.M.S..... | £24.95 | £16.99 |
| Heroes of the Lance..... | £24.99 | £16.99 | Times of Lore..... | £24.95 | £16.99 | Lombard RAC Rally..... | £24.95 | £16.99 | World Class Leaderboard..... | £19.99 | £13.99 |

ATARI ST SUPERPACK
(Inc Business Org.)
£375.00

ROM 64 HOLLYWOOD PACK
£149.99
DISC DRIVE
£125.99

AMIGA 500 PACKS
FROM £359.99
Inc FREE Modulator

We now have another shop!
Why not pop in!!
185 Frodingham Rd,
Scunthorpe, South Humberside.
OR CALL US ON 0724 858744

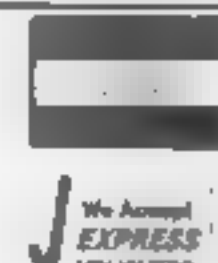
DATAWORLD STOCKS:

OVER 100 TITLES ON AMIGA DISK FOR £5.99 EACH
OVER 40 TITLES ON COMMODORE DISK FOR £2.99 EACH
OVER 200 TITLES OF P.D. FOR THE AMIGA FOR £7.00 FOR A PACK OF 24 TITLES
A WIDE RANGE OF IBM GAMES/BUSINESS/UTILITY TITLES

RING US NOW WHILE STOCKS LAST

Order by Phone (0427) 810151 Goods normally despatched within 24 Hours.
All prices include VAT and FREE Delivery in UK. Overseas orders, please add £2.00 per item.
Customers paying by Cheque, goods will be despatched when cheque is cleared.

*** CALLERS WELCOME AT OUR SHOP ***



PACIFIC SOFTWARE

require talented game programmers for Atari ST, who are experienced in one of the following:

1. 68000 Programming
2. Sprite Design
3. Games Design
4. Music Composition
5. Graphics
6. Software Protection

If you feel you are competent in any of these aspects of computing, please write to us giving if possible, a sample of your work and instructions to:

PACIFIC SOFTWARE

**37, Larch Road,
Birkenhead,
Merseyside,
L42 0JG**

ACTUAL SCREENSHOTS

"What you see is what you get"

Actual screenshots is looking for the best programmers, graphics artists and new games for the Amiga, Atari ST and PC machines.

If you think your standards could match ours, send your demos with full details to:

**ACTUAL SCREENSHOTS, 7D KINGS YARD,
CARPENTERS ROAD, LONDON E15 2HD**

or contact MICHAEL HODGES or ADRIAN TURNER on

(01) 533 2918

Actual Screenshots

Intellectual Trust Corporation Requires Programmers

We are a new software publishing company.

We are looking for games, simulations and educational software for the Atari ST and Amiga.

If you have a finished program or one nearing completion please send it to us for evaluation.

Send your programs to:

**D M Kiss, Intellectual Trust Corporation,
28 Elmfield Road, Hyde Park,
Doncaster, S. Yorks. DN1 2BA
Telephone: (0709) 893066**



**Zeppelin Games require Z80 and 6502 programmers to
work to the best game plans in the business.**

Zeppelin produced the Budget Game of the Year and its full-price sister arm, Cognito, has just released THE soccer name game - KENNY DALGLISH SOCCER MANAGER.

On the Atari XL/XE, Zeppelin are unassailable in the UK.

Zeppelin's success has been built on sound relationships with its programming teams. Many coders have gone from unproven enthusiasm to the very top positions at Zeppelin - such is the encouragement and support of a management team who've all been programmers themselves.

Freelance and permanent posts are available.

Please phone or write in confidence to:

**Martin O'Donnell
Zeppelin Games Ltd,
Osborne House, 28 Osborne Road,
Jesmond, Newcastle upon Tyne. NE2 2AJ
Tel: 091 281 4401**





TECH TIPS

Problems with your computer? Express's Agony column has the answer. Write in strictest confidence to Uncle Techtip.

Best tips win a freebie - so don't forget to tell us your address and machine

TIP Missing mouse

I have encountered a problem in using a mouse under DOS 3.21 on my Atari PC1 and my experience might save other new PC users an hour or two of puzzlement.

The Atari comes complete with a mouse and with GEM desktop software which automatically loads a mouse driver, so all is plain sailing as long as one sticks to GEM. However, when I loaded another program which should use a mouse pointer, the mouse failed to operate.

I consulted the manual which said: "Installing the mouse driver file (mouse.com) enables you to use the mouse in other applications besides GEM desktop. To install the mouse type enter at the MS-DOS prompt. You can also install the mouse by entering mouse in the autoexec.bat file".

I followed these instructions and the result was the message "bad command or file name". When I checked the directory on the DOS disk there was no MOUSE.COM. It occurred to me that there might be an identifiable mouse driver on the GEM startup disk. The root

directory showed the directory GEMBOOT and this contained MOUSE.COM. It was simple enough to copy this to the MS-DOS working disk and the mouse command worked. I then added the command mouse to the AUTOEXEC file and that worked too.

John Leach, Avening, Tetbury

HELP! Amiga answers

I own an Amiga 500 and I have a few questions that I would be grateful if

you could answer for me.

1. When are you given the first mission in Elite? I remember that in my C64 version I was given it as soon as I'd docked with military lasers. I have restarted the game several times reaching Competent with an iron-ass. I'm now rated dangerous but still no missions.

2. Can you advise me on the latest PD comms software for the Amiga? I've heard of a few but don't know which to use.

3. What's the difference between Xmodem and Zmodem?

4. How significant is the saving in time and phone charges when operating in V22 and V22bis modes compared to V21 and V23 and is it worth paying the extra for an Amstrad SM2400 for the V22 and V22bis modes?

5. How does the above Amstrad

5. The Amstrad is an uncommonly good piece of kit. Sources praise it highly. Buy it, you won't be disappointed.

TIP Keeping up the Pace

With reference to the letter from CR Clement (Express 29) who required help with his Pace 5.25 inch drive. I have some information on a Pace PSD3 5.25 inch drive which might be of some use. The power requirements are as follows:

+5V DC +/-5% 0.5A typical 1.0A maximum 50mV max ripple p-p
+12V DC +/-5% 0.7A typical 1.0A maximum 100mV max ripple p-p

The +5V is used for the logic circuit and the read/write circuit. The +12V is used to drive the motor to rotate the disk and is also supplied to the stepping motor and the read/write. The BBC computer appears to have +5V at the disk interface (34 pin socket). However, it appears that the drive requires separate +5V and +12V power supplies. The auxiliary power socket on the BBC micro has the following connections: 0V, +5V(1.25A), +12V(1.25A), -5V(75mA). To get a cheap power supply with both +5V and +12V it may be cheaper to build one yourself. I have a suitable circuit diagram if it is required.

G P Burkitt, Aldershot, Hants

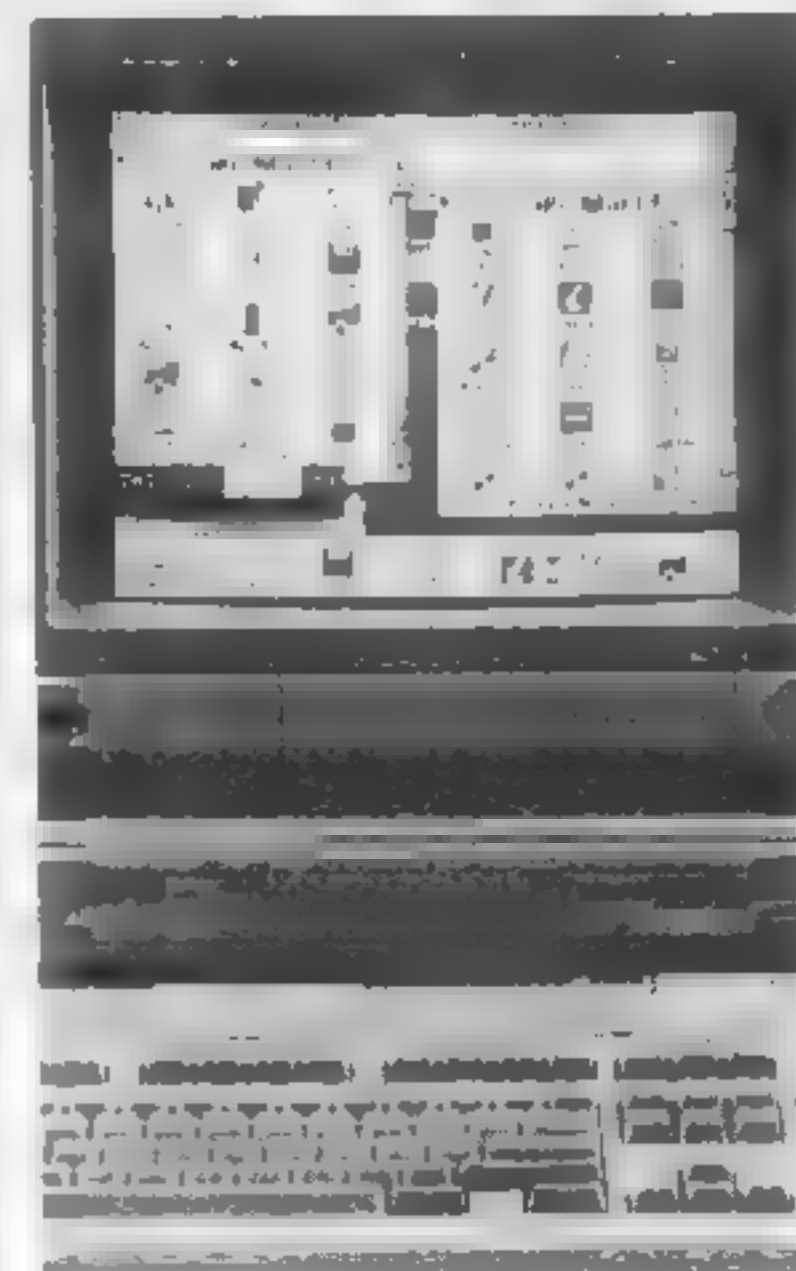


• Amstrad's SM2400 modem: Best for the Amiga?

HELP! Acorn nut

The new Archimedes A3000 looks like just the computer I'm after. I have just a few quick questions to ask you knowledgeable people at Express.

Firstly, monitors. I've seen the Archimedes 310 and 440, and the monitor supplied with these has the Archimedes logo. I intend purchasing an A3000 and monitor



• Would you buy a new monitor for the 'right' logo?

TIP OF THE WEEK

A friend of mine is a student living in bedsit land. He uses an Amstrad PCW9512 which has a good but very noisy daisy-wheel printer. His neighbours and the landlord are definitely not amused at the clatter.

My mate enquired about the cost of acoustic hoods but could find nothing under £50. That

figure makes quite a hole in a student grant. So he rigged up a cardboard box and glued some egg boxes inside. The result was an amazing drop in the level of noise. In view of the fact that your excellent magazine may well feature the advertisement of an acoustic hood manufacturers, I would be interested to

see whether you are prepared to print this tip (I see, it's the old 'I'll try X ploy to get my letter printed huh?' - Uncle T). Mike Coleman, Eastbourne, Sussex. If your 'friend' would care to write with their address, they will receive a subscription to Express - thereby saving even more on the grant.



• An acoustic hood from eggboxes (salmonella-free) for your noisy 9512 printer.

compare with its more expensive equivalents in terms of reliability and features?

W C Tao, Bristol

1. You're putting me on aren't you?

2. Sure. Buy AZComm, Handshake, Aterm, VT-100, Wombat or Access.

3. Xmodem and Zmodem are both protocols for transferring files across telephone lines via modems. Inherent in telephone communications is 'noise'. It interferes with your transmissions and makes them unintelligible to both human ears and the computer. To overcome this noise various methods have been devised to check the validity of transmitted data and the two protocols mentioned above are but two of these. Xmodem is the older and is consequently slower in transferring data than Zmodem. Either will successfully transfer files.

4. Operating at 1200 and 2400 baud full duplex is significantly faster than operating at 300 baud and 1200/75. Unfortunately, things are never as simple as this. Using faster speeds to transmit data means that you'll have a larger error rate and consequently longer transmission times as data blocks are retransmitted. Still with good comms software, the higher speeds are infinitely preferable to the lower ones. Yes, lay out the moolah for the modem with better speeds.

now and upgrading to 440 when I've got enough moolah. I know it's possible to buy an equivalent monitor with the Acorn logo instead, but what I want to know is can you get the monitor with the Archimedes logo with the A3000? I know it's only a minor quibble, but it would make my A440 system look complete when I get it, instead of me having to buy a new monitor system totally (now I know why this letter was written in crayon - Uncle T). Please help to save my life.

Secondly, appearances. I've seen too many different reviews of the A3000 to keep track of, but every one had the logo on the A3000 machine different! For instance, your good selves printed a photo of an A3000 in issue 28 which had the word Acorn on the top left of the keyboard and a BBC owl with A3000 and the power and disk lights next to it on the top right. But this week in issue 29, your review of the A3000 has the BBC owl substituted with an Acorn logo and above that a bigger BBC owl! What's going on chaps?

Finally, where can I get a nice monitor plinth as shown in issue 28 in the A3000 photo.

Ken Davies, Bangor, Gwynedd

• OK, maybe - just maybe - this letter is actually serious, so here goes. Firstly: Yes. Secondly: Dunno. Thirdly: In the box when you purchase the computer and monitor.

HELP!

BBC revisited

I have recently sold my BBC micro computer in order to purchase an Amiga A500. This has left me with an Epson MX-80 type III printer. Is it possible to use this printer with the

Amiga for word processing and graphic dumps? (Using Photon Paint, Digiview and Deluxe Paint III).

One more question. Does the Amiga BBC emulator exactly reproduce the BBC or is there additions or subtractions in the BASIC language? Any help would be greatly appreciated.

Ross J. Taylor, Clwyd, North Wales

• The printer will work perfectly with your new machine. I haven't seen the emulator myself, but I'm told that it provides a near perfect version of the BBC BASIC language with the minor subtraction of some machine specific commands.

Sheep in wolf's clothing

I have recently been phoning around various retail and spares outlets with the aim of obtaining an A1000/A2000 case for my A500. So far I have drawn a blank, so I would be grateful for your advice, not only for the above, but also as to the feasibility of transplanting my machine into the new box and the internal fitting of 2nd drives etc.

Keith Lee, RAF Marham

• Why would you want to do such a thing? It's twisted and perverse. If you



• Can you put Amiga A500 innards into an A1000/2000 case? (After putting a Citroen 2CV engine in an Escort, presumably.)

RS232 interface (check the mail order ads in Express - they should be about £50 or so) which plugs into the back of your PCW; secondly, LocoScript 2. The version you get with the PCW8512 8256 can't work with printers other than that supplied. Loco 2, however, lets you print out automatically to any third party printer. Locomotive are on 0306 740606 and Loco 2 costs £25, coming with a very good manual.

Print quality from your supplied PCW printer might be improved by adjusting the blue or red plastic pressure setting knob underneath the black plate on the printer on the right hand side.

really must try, then contact Commodore on 0628 770088 - or your camp psychologist who will be able to offer even more help. Putting A500s into A1000 cases indeed!

HELP!

Addressing Archie

Please, please could you help me? I've been wanting to write to Acorn for a while now, but so far I haven't been able to because I cannot find their address anywhere. So could you please give me their address so that I can finally say what I want to them (hope it isn't anything nice - Uncle T.). Also can you answer these

questions for me?

1. How much would an Archimedes 310 with a colour monitor cost?

2. Can the Archie display all of its palette of colours on-screen at once?

3. When will Elite II be available? And will it be available for the Archie and Amiga?

4. How does a PC emulator work? Is there a PC emulator for the Amiga 500 and if so, how much is it?

5. Is there an Amiga, ST or MAC emulator for the Archie?

Elliot Gould, Weston Turville, Bucks

• Address your vitriol to Acorn at Fulbourn Road, Cherry Hinton, Cambridge CB1 4JN.

1. Megabucks! The basic model 310 costs £835 and a suitable colour monitor will cost you anything from about £200 upwards.

2. Yes.

3. When programmer David Braben decides it is ready. Strictly between you and me, off the record, nudge nudge, hazarding a guess, I would say almost certainly for the Amiga and probably for the Archie.

4. Emulators work in one of two ways. Either you have a plug-in board with all the chips one would find in the machine to be emulated. When software is running, control is passed to this board and the application is fooled into thinking it is running on the correct machine. Or emulation is provided by software 'hiding' in the machines memory somewhere (as in the case with PC-DITTO for the ST). All calls to the hardware by the application are directed through, and interpreted by, the emulator, converted into native instructions, then passed to the hardware.

5. No.

TIP

Exo-lent

Here's a tip I've found for one of the games on Hewson's Premier Collection for the ST.

In Exolon, you can stop the in-game music and replace it with sound FX, despite what the instructions say! Just press the F key while playing, but do it very quickly, otherwise the tune just restarts. The game plays much better with spot effects, since on some of the more chaotic screens you can listen for when the ground canons fire at you. There's also some sampled sound of glass smashing when aliens are hit. Dab F again to return to the music.

Jann Kelventa, Bootle, Merseyside



• Elite: Great on the 16-bit machines, but how about the Archimedes...?

BUG OF THE WEEK

Here's a bug for Amiga R-Type players:

If you collect the shield orb on Level One, and manage to survive to Level Four without losing it, you can pick up the second orb three times out of ten on you.

By Max A. Leyland

gets added in central Europe, the game is stuck under decaying vegetation and extra weapons people can never get to



Evesham Micros

We Accept
EXPRESS
VOUCHERS

All prices include VAT and Delivery

ATARI

All our ST prices include: mouse etc. plus 5 disks of software including 'First Word' wordprocessor, utilities, 'Neochrome' graphics utility, game and demos.

520 STFM POWER PACK

Amazing value, all-new special ST package from Atari! Includes 520STFM with 1MEG drive, joystick, mouse, user guide, 5 disks of public domain software, plus an incredible selection of chart-topping software worth over £500! Software included is:

R-Type
Afterburner
Double Dragon
Super Hangon
Space Harrier
Overlander
Pacmania
Starglider
Super Huey
Eliminator
Predator
Bombjack
Out Run
Bombuzal
Xenon
Gauntlet II
Black Lamp
Starry
Nebulus
Starquake
First Music
First Basic
Organiser

**All
for
only
£359.00**
Inc VAT & delivery

520 STFM SUPER PACK

Includes 520 STFM with 1MEG drive, over £450 worth of software, joystick, mouse, User Guide and 5 disks of Public Domain Software. Software included is:

Marble Madness
Beyond Ice Palace
Thundercats
Summer Olympiad
Arkanoïd II
Eddie Edwards Ski
Kart Warriors
Test Drive
Buggy Boy
Quadrathlon
Xenon
Wizball
Seconds Out
Zynaps
Chopper X
Panorama
Starquake
Genesis
Black Lamp
Thrust
Organiser

**New
price!
only
£319.00**
Inc VAT & delivery

520 STFM with 1MEG internal drive fitted £269.00
1040 STFM latest model, with built-in TV modulator £399.00
1040 STFM model as above with 'Microsoft Write' & 'VIP Professional' £419.00
1040 STFM including joystick, 5 games with business software as supplied with above described '520STFM Super Pack' £419.00
1040 STFM inc. 'super pack' extras as above, 'MS-Write' & 'VIP Pro.' £459.00

Buy a monochrome monitor with any 1040 from above for £110.00 extra

Mega ST1 with mono monitor, 'MS-Write' & 'VIP Pro.' £599.00
Mega ST2 with mono monitor, 'MS-Write' & 'VIP Pro.' £849.00
'Super Pack software' as supplied with above 520STFM offer £ 60.00
520 STFM 1MEG internal 3.5" drive upgrade kit inc. full instructions £ 74.95
SM124/5 mono monitor £119.00
SC1224 colour monitor £279.00
Philips 15" FST Teletext TV/monitor model 1185, full rem/ctrl, c/w cable £269.00
Philips CM8833 14" colour monitor c/w ST or Amiga lead £229.00
Philips 8CM852 as above, higher resolution (0.39mm dot pitch) £259.00

commodore 64 accessories

Oceanic OC-118 64/128 disk drive for 64/128 with free GEOS software £129.95
Oceanic OC-118 as above, with Freeze Machine cartridge £149.95
Freeze Machine complete backup cartridge, with integral reset button £28.95
LC-10 commodore 64/128 ready printer inc. 5 extra black ribbons free £199.00
LC-10 7-colour version of above printer inc. 2 extra black ribbons £249.00

Amiga & ST 3.5" Drives

★ Very Quiet
★ Slimline Styling
★ Fully Compatible
★ Top quality Citizen drive mechanism
★ On/Off switch for Amiga
★ External plug-in PSU for ST
★ Throughport for Amiga
★ 1Mb unformatted capacity

Fully compatible, high quality 3.5" external drives for the ST and Amiga

Amiga version only £74.95

Atari ST version only £79.95

Prices include VAT & delivery

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

20MB...£199.00 32MB...£229.00 40MB...£289.00

DISECTORST_{V5}

for all Atari ST models
only £28.95

New Version ■ disk utilities for the ST, features include: protected software backup, incorporating turbo nibbler, a very fast and powerful copier, which uses all available drives & memory and includes 80 parameter options for handling a greater range of software; drive ■ boot allowing many programs ■ startup from drive B; **organiser accessory** providing many major disk management commands; **special formatters** giving up to 25% extra user storage per 3.5" disk and accelerating access speed by up to 30%; **fast backup version 2** copies standard disks speedily; **ramdisk accessory**; undelete file; PLUS much, much more!

3.5" disks

10...£11.95 in plastic case £13.95
25...£27.95 in 40 cap case £34.95
Fully guaranteed double sided media

5.25" disks

25...£13.95 in 50 cap box £22.95
25...£13.95 in 100 cap box £24.95
Fully guaranteed double sided media

Amstrad PC1512/1640/2086

We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

| | SD | DD | AMS H.D. | SD 20MEG | DD 20MEG | SD 32MEG | DD 32MEG |
|--------------------------------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| EVESHAM UPGRADED MODELS | | | | | | | |
| MONO 1512 | 384.35 442.00 | 477.39 549.00 | N/A N/A | 557.38 641.00 | 650.44 748.00 | 583.46 671.00 | 676.52 778.00 |
| COLOUR 1512 | 494.78 569.00 | 555.85 639.00 | N/A N/A | 667.83 768.00 | 728.70 838.00 | 693.91 798.00 | 754.78 868.00 |
| MONO 1640 | 474.78 548.00 | 555.85 639.00 | 738.26 848.00 | 647.83 745.00 | 728.70 838.00 | 673.91 775.00 | 754.78 868.00 |
| CGA colour 1640 | 581.74 689.00 | 651.30 749.00 | 826.22 948.00 | 754.78 868.00 | 824.35 948.00 | 780.87 898.00 | 850.43 978.00 |
| EGA (ECD) 1640 | 677.39 778.00 | 738.26 848.00 | 938.28 1078.00 | 850.44 978.00 | 911.30 1048.00 | 876.52 1008.00 | 937.39 1078.00 |
| 2086 MONO | 569.57 655.00 | 682.81 785.00 | 912.17 1048.00 | 742.81 854.00 | 855.65 984.00 | 768.70 884.00 | 881.74 1014.00 |
| 2086 CD | 712.17 819.00 | 821.74 945.00 | 1051.30 1208.00 | 885.21 1018.00 | 994.78 1144.00 | 911.30 1048.00 | 1020.87 1174.00 |
| 2086 12" HRCD | 784.78 914.00 | 912.17 1048.00 | 1120.87 1289.00 | 887.83 1113.00 | 1085.22 1248.00 | 993.91 1143.00 | 1111.30 1278.00 |
| 2086 14" HRCD | 886.09 1018.00 | 1007.83 1159.00 | 1233.91 1419.00 | 1059.13 1218.00 | 1180.87 1358.00 | 1085.22 1248.00 | 1206.98 1388.00 |

PC1512 special offer Buy an Amstrad DMP3160 10" carriage 9pin printer with any PC1512 model for only £120.00 extra!

optional extras

1512 memory upgrade to 640K £39.95
Maths Co-processor 8087-2 £129.00
NEC V30 (8086 replacement) £24.95
Cipher CT1525 tape streamer £319.00
Amstrad Modem Card V21/23 £99.00
Amstrad MC2400 Modem Card £199.00
Enhancer 101 replacement keyboard ... £74.95
3.5" drive (720K) for SD models £79.95
PC2000 series compatible
5.25" (360K) external drive £100.00
Joystick & Controller Card
self centering analog type £34.95

Amstrad PPCs

Low prices on all portable PCs - especially twin drive models
prices in brackets are excluding VAT

PPC512S (£373.04) £429.00 PPC640S (£477.39) £549.00
PPC512D (£433.91) £499.00 PPC640D (£546.96) £629.00

New low price External 3.5" floppy drive (720K) to suit ANY Amstrad 1512/1640 Inc. DD and HD models! Uses no expansion slots £99.95

Central Point Software

For all your PC disk management requirements

PC Tools Deluxe Version 5... Other utilities may claim to 'do it all' but only PC Tools Deluxe ■ the complete disk utility package, providing a fast hard disk backup, the best undelete available, 100% safe formatting of floppy and hard disks, unformat, reliable disk caching, compress facility, ■ fact everything required to manage & protect your data at a sensible price.....£49.95

Copy II PC Version 5..... The most effective floppy disk backup utility of its type. We always ship the latest version. Can also transfer many programs to hard disk and then run them without reference to floppy. Supports both 5.25" and 3.5" disk format. Don't be without it.....£24.95

Copy II Deluxe Option Board..... The ultimate solution to backing up copy-protected software using the hardware option. All the original features of the Option Board, including the most powerful backup copier product on the market, and can even transform any PC equipped with a 3.5" drive into a dual purpose IBM/Macintosh drive. Allows your PC to read and write ■ MAC data disks easily through DOS. Comes as an easy-to-fit short card.....£84.95

PRINTERS

All prices include VAT, delivery and cable

star

We use and recommend Star printers since they do offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free ... £199.00
Star LC10 7-colour version of above printer, inc.2 extra black ribbons £249.00
Star LC24-10 feature-packed multifont 24 pin printer £319.00
Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons £499.00
Star NX-15 budget wide carriage printer £329.00
Star NB24-15 wide carr.version of NB24-10 inc. cut sheet feeder £649.00
NEC P2200 budget 24pin, great value 168/56 cps £319.00
Amstrad DMP3160/3250DI good value 10" 9pin £169.00
Panasonic KXP1081 reliable budget 10" printer 120/24 cps £169.00
Panasonic KXP1180 super new 9pin with over 3400 typesstyles, 11" carriage £199.00
Panasonic KXP1124 great new sturdy 11" multifont 24pin printer £319.00
Epson LX800 popular 10" 180/25 cps £199.00
Epson LQ500 good 24pin printer 150/50 cps £319.00
Citizen 120D good value 10" 120 cps £139.00
Citizen HQP-45 wide carriage 24pin printer £399.00

How to order

All prices VAT/delivery inclusive
Express courier delivery £5.00 extra
Send cheque, P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
All goods subject to availability E.&O.E.
Open to callers 8 days, 9.30-5.30
Telex: 333294 Fax: 0386 765354

Evesham Micros Ltd

63 Bridge Street
Evesham
Worcs WR11 4SF
Tel: 0386 765500

Also at: 1762 Pershore Rd., Coteridge, Birmingham, B30 3BH Tel: 021 458 4564

YES, I'd like to keep in touch with the latest computer news, releases and advertising bargains by subscribing to *New Computer Express*. I would like to subscribe for:

☐ 56 issues costing just £29.95 ☐ 26 issues costing just £14.95
(tick one box only)

Name

Address

Age: <18 18-25 26-35 36-45 >45

Computer

Total payable

Payment by: Access Visa Cheque ☐ PO

Access/Visa no

Expiry date: June 17th 1989

Please make cheques or POs payable to **Future Publishing Ltd** and enclose them with this form in an envelope addressed to Express Subscriptions, Future Publishing Ltd, Somerton, Somerset TA11 7PY. No stamp required if posted in the UK.

FOUR FREE ISSUES!

■ At only 58p *New Computer Express* is an incredible bargain, but take out a year's subscription and we'll send you an **additional four** issues of the magazine **absolutely free!**

■ So for just **£29.95**, you'll receive **56** copies of Britain's **most exciting** weekly computer magazine! (Or you can take out a six-month subscription (26 issues) for just **£14.95**.)

■ There's no better way of keeping **100%** up to date on the fast-changing computer scene!

(Please allow three weeks for your subscription order to be processed.)

CREDIT CARD ORDERS 0458 74011

You can order your subscription by phone. Just dial 0458 74011 and ask for New Computer Express Subscriptions.

Z88 WITH CASE, 128K RAM, adaptor, original boxes etc. Hardly used. £195 ono. (0225) 29073 evenings.

ATARI 520STFM, 1Mb memory upgrade, clock, 1Mb second drive, digitiser, over £2,000 software. Worth £2700, bargain £700. Phone 061 437 9918

AMSTRAD CPC6128, colour monitor, cassette lead, joystick, built-in disk drive. Several original games. Excellent condition £200 ono. Tel 01-941 0611

PCW UTILITY, has clock, calendar, jotter, diary, phonebook, graphs, alarm, calculator, all in 3D graphics. £15. Phone 061 226 9099

A500, 1084 MONITOR, A501 expansion, Cumana drive, LC10 printer. £500+ worth of software. £1,000 for quick sale. 0689 50985 after 6.

FOR SALE PRISM 2000 MODEM with MSX RS232C interface board comms software with Viewdata plus interface lead £120 ono. 051 236 7981

COMMODORE 64, cassette deck, MPS-801 printer, joystick, software, handbooks etc. Excellent condition, £150 ono. Gravesend 0474 362217.

SEGA MASTER SYSTEM with 12 games including Shinobi, Zillionz and Global Defence. Excellent condition £170. Tel 0284 754060.

AMIGA TIPS AND CHEATS, disk issue one, covers 30+ games: £2.00 and SAE to J. S. Smith 45 Maplecroft Crescent, Sheffield S9 1DN.

AMSTRAD PC1512 single drive colour monitor, modem, printer Citizen 120D, dot matrix and several software items £600. Bradford 0274 639312.

BARGAIN 640K QL, a universe of software, perfect working order. Offers. Ring Express on 0225 446034.

ATARI MEGA 2 ST, colour monitor, extra Atari drive, 30+ quality games, w/p, extras, Guarantee, £850 ono. May split. 0202 691306.

AMSTRAD PC1512 double disk, colour monitor, 640K RAM, joystick, game card, mouse, games, w/ps, spreadsheet etc. Only £470. 0403 732848.

MUSIC 5000 SYSTEM and hundreds of tunes, £75. Hires BBC colour monitor £250 ono. Call (0442) 52320 with offers.

SPECTRUM +2 also with compatible colour monitor, loads of top original games, joystick, books etc. £260 ono. Tel Tamworth 63900.

ATARI 520STFM games, 3 joysticks, trackball, utilities, 40 blank disks, boxed as new. £300.00. Tel Milton Keynes 0908 618937.

CASTLE SOFTWARE EXCHANGE CLUB. Exclusively for the Atari ST. Send SAE for details. C.S.E.C., 6 Yarnet Croft, Stafford ST16 3HX

STARBOARD2 FOR A1000. Unpopulated, boxed. £170. Phone 07714 378 after 6pm.

C64 SCREEN DESIGNER and character editor. Needs Action Replay type cartridge to save screens. £5. Phone Chris 061 226 9099

COMMODORE 64, cassette, printer, disk drive, modem, plus, wordpros, music, £120 games, joysticks, manuals etc. Worth £1200, sell £450. Phone 0635 67882

ATARI 520STFM £600 software, Falcon, Fast BASIC, Easy Draw 2, GFA Draft, Loads more. £275 the lot. Evenings/weekends 0582 608 338

BROTHER HR15 daisywheel printer, centronics parallel interface £175. Mike Rawlings 0371 5441 daytime, 0638 664165 evenings and weekend.

ATARI STFM 1 meg memory, £500 worth of games, 2 joysticks, mags. Devpac 2, MC Books, STOS. £330. Phone 0462 712583.

SWAP my mountain bike, specialised Rockhopper, for your STFM or Amiga. John Jnr 01 387 5949 evenings only.

HOME-WRITTEN programs required for publication by micro club. For more details telephone (0245) 361471.

SPECTRUM +3, software joysticks, books, radio cassette - cost over £600 - sell £130 + P & P - telephone 0684 292093.

SPECTRUM UTILITIES, programming, graphics, useful homegrown software! Disciple/+D, Opus, Microdrive, Cassette £2. Your first 'Outlet!' Cavers, 605 Loughborough Road, Leicester

AMIGA 500 + 1084S colour monitor +2 disk drive A501, RAM expansion, 4 months old worth £900, under guarantee, books, software £650 ono. Glasgow. Phone 041-946 3305 after 5pm.

MSX2 (PHILIPS) now available in UK. Telephone 0775 66477 for specification sheets and order form.

C.V.s ON YOUR MICRO. Tips, layout, examples of C.V.s. £7.50 to "Datascript", I Wellbrae Court, New Elgin, Moray IU30 3EP.

ATARI 130XE, 1029 printer, 1050 disk drive, 1010 cassette, plus lots of extras, all with original boxes £275. 0268 284074.

S.A.M. The best video digitiser for Atari ST. Perfect condition. Cost £250 sell for £160. Call Andrew at Crawley 0293 547522.

PPC 640 single drive, Cumana 20Mb hard disk, Sinclair monitor, Juki printer. Just £1,000 ono. Tel David 0458 31780.

ARCHIMEDES 310 + colour monitor + printer + RiscOs. for £900 ono. Buyer collects. Ring Bristol 652759. Ask for Mark.

FREE! Monthly Atari Disc Magazine with the Newport Software Club. No membership fee! Ring David for details on 0952 820215.

AMSTRAD CPC464, green monitor, TV modulator with Protext and Mini Office plus loads of games. £120. Tel 0908 322548.

KEYBOARD CHORDS five minutes. 100% foolproof method. Every major minor flat and sharp chord. Send £5 PO, method by return. 66 Linum Place, Fenham, Newcastle Upon Tyne NE4 9RQ.

AMSTRAD CPC6128 colour, software, Laser Genius, Jack Nipper £190. Spectrum 128, games, mags, tape deck, £75. Quick sale please. Phone 0234 708458.

Express 31 Classifieds form

Name

Address

Tel

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

One space equals one word. All adverts must be 20 words or less.

Please note:

- 1 Sorry, no trade ads. All classifieds must be from private individuals
- 2 All entries should be accompanied by £5 payment
- 3 New Computer Express will not accept responsibility for any minor typographical errors which do not materially affect the meaning of the adverts.
- 4 We cannot vouch for the quality of goods and/or services advertised in this section. All ads are accepted in good faith.
- 5 We reserve the right to amend or even refuse ads at our discretion.
- 6 No pirated software may be sold through these columns. Any readers being offered non-originals should contact us.
- 7 We cannot guarantee that adverts will appear in a specific issue of New Computer Express.
- 8 The following declaration must be signed:
I have read and understood the terms for the inclusion of my ad.

Signed

Make cheques and postal orders payable to **FUTURE PUBLISHING LTD.** If paying by credit card, please enter details:

CREDIT CARD NUMBER

EXP. DATE

Keeping up with the Joneses

Rik "Indy" Haynes whips up a storm while previewing the latest games from Lucasfilm

INDIANA JONES AND THE LAST CRUSADE LUCASFILM GAMES/US GOLD

US company Lucasfilm Games is launching two games based on the new Indiana Jones movie, *The Last Crusade*. The first, an arcade action game centred around the film's best chase and fighting sequences, will be released in August - when the movie premieres in the UK - on Spectrum, C64, CPC, ST, Amiga and PC. The second game is a graphical adventure due for

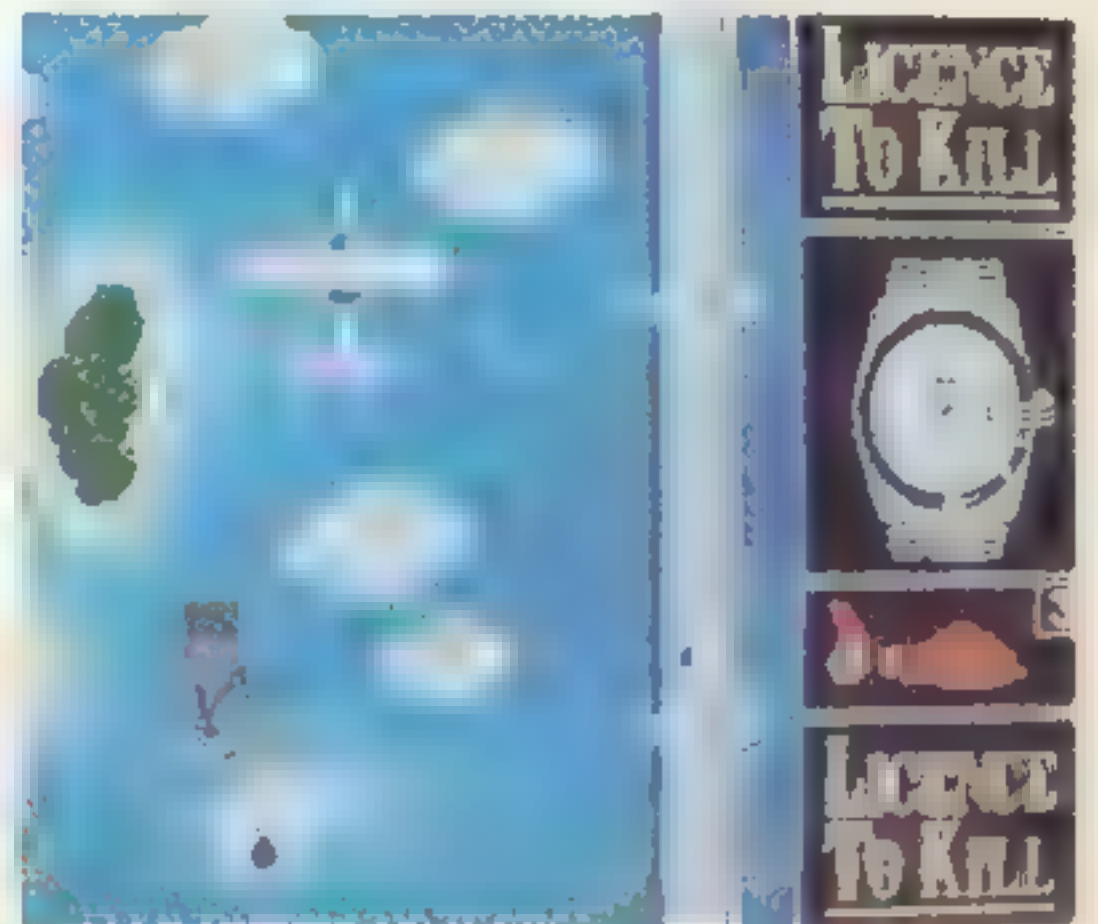
release on ST, Amiga and PC in September. Hopefully, both games will offer something special, ■ Steven Spielberg and George Lucas helped design them!



• On the left, Indy the adventure, and on the right we have the arcade game, a co-development between Lucasfilm and US Gold

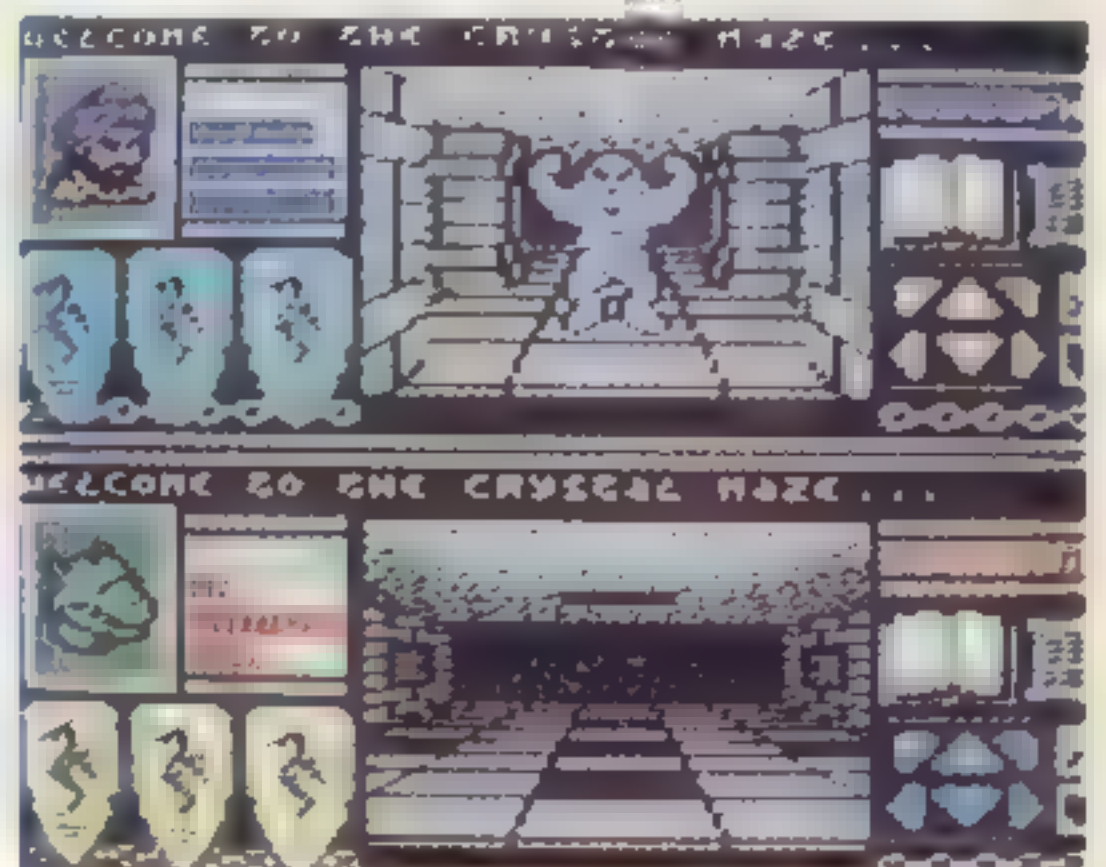
LICENCE TO KILL DOMARK

Also on the film tie-in front is *Licence to Kill*, based on the latest James Bond movie. As 007, you'll pilot a helicopter, avoid sharks and underwater thugs, and end up chasing the bad guy in a stolen crop duster! Spectrum, C64, CPC, ST, Amiga and PC versions of *Licence to Kill* should be available later this month to coincide with the cinema release of the film.



BLOODWYCH IMAGEWORKS/MIRRORSOFT

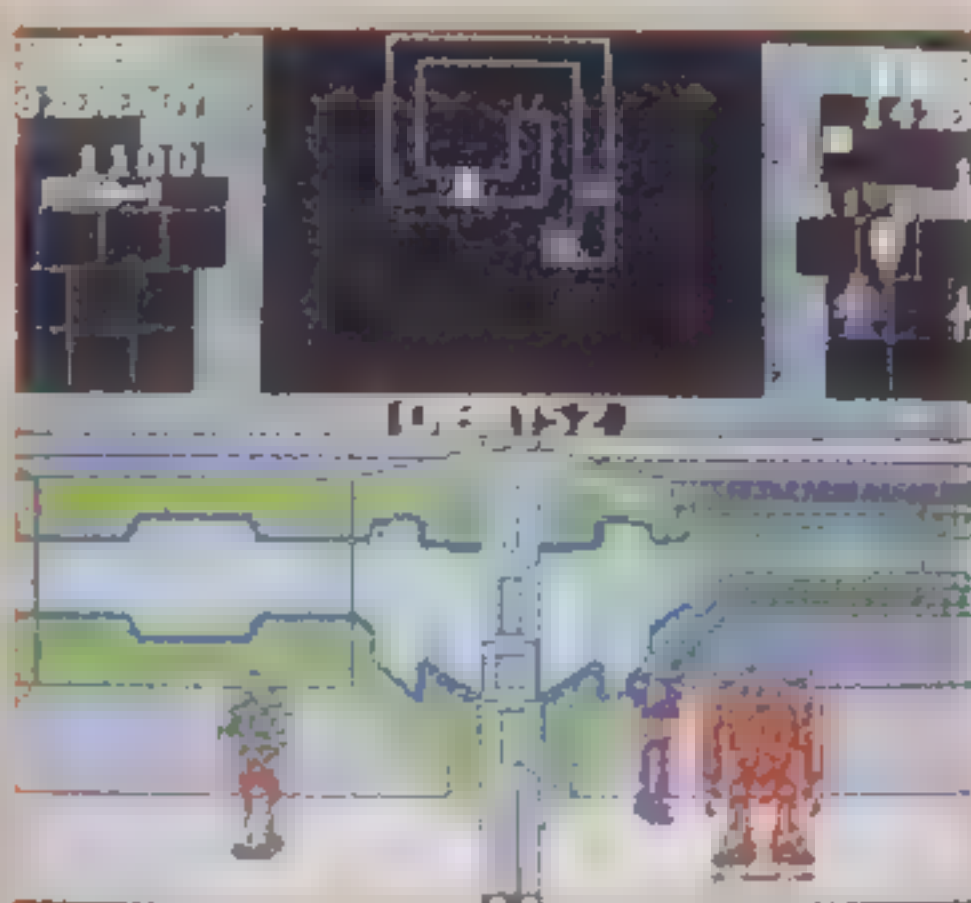
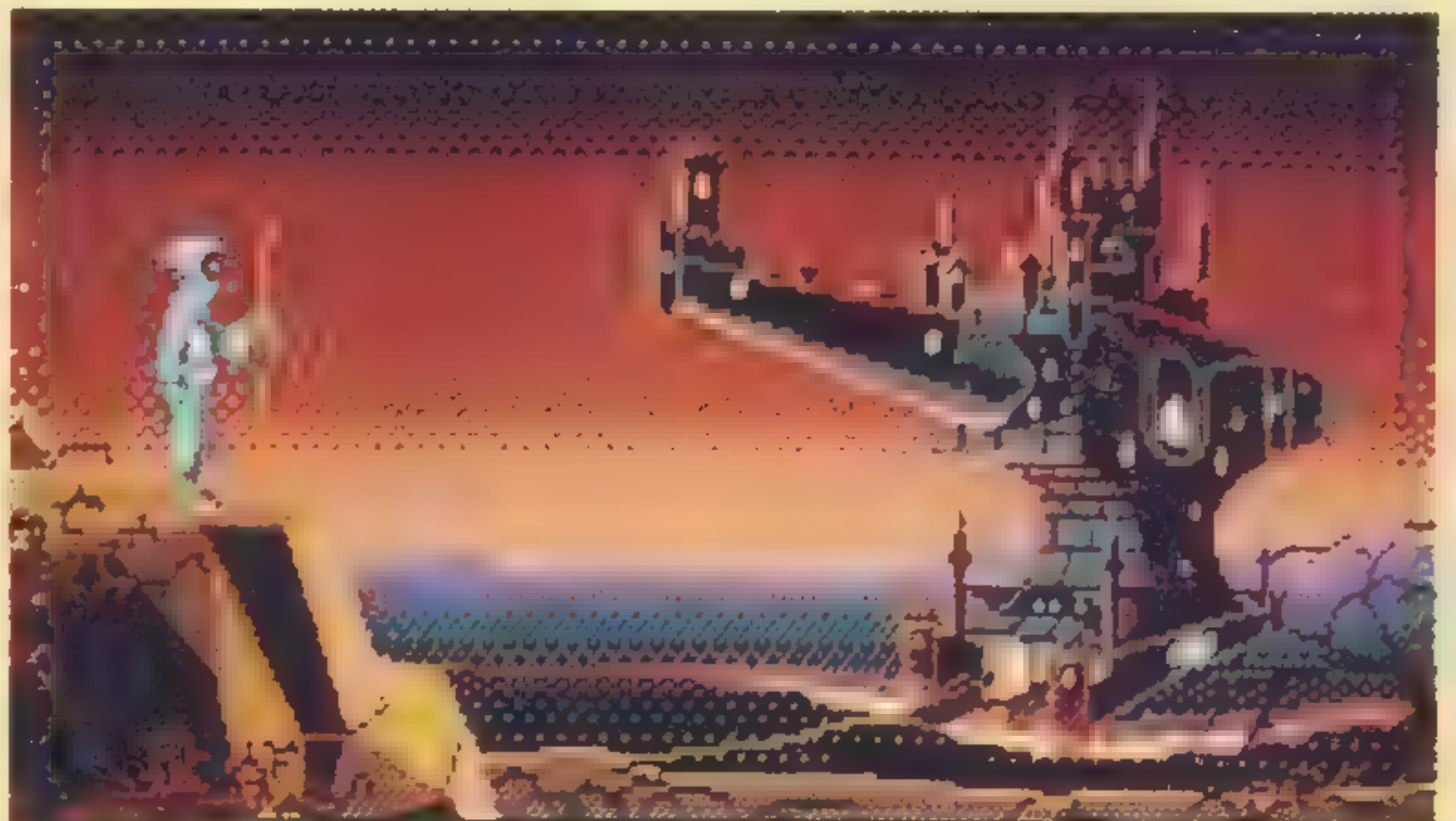
Bloodwych ■ a one or simultaneous two-player role-playing adventure game, placing the players in a quest to find four crystals - holding the key to absolute power - hidden somewhere in a castle riddled with strange inhabitants. Could this be a worthy successor to Mirrorsoft's *Dungeon Master*? *Bloodwych* on the ST and Amiga will ■ released at the end of next month, with Spectrum, C64, CPC and PC versions following shortly afterwards.



LOOM LUCASFILM GAMES

Lucasfilm is also working on its first fantasy adventure game, *Loom*, which is set in a mythical world ruled by Shepherds, Blacksmiths and Glassmakers, with you placed in the role of a young Weaver somehow

entangled in the conflict between good and evil. *Loom* will come with a 30 minute audio drama cassette, to help increase your understanding of the game.

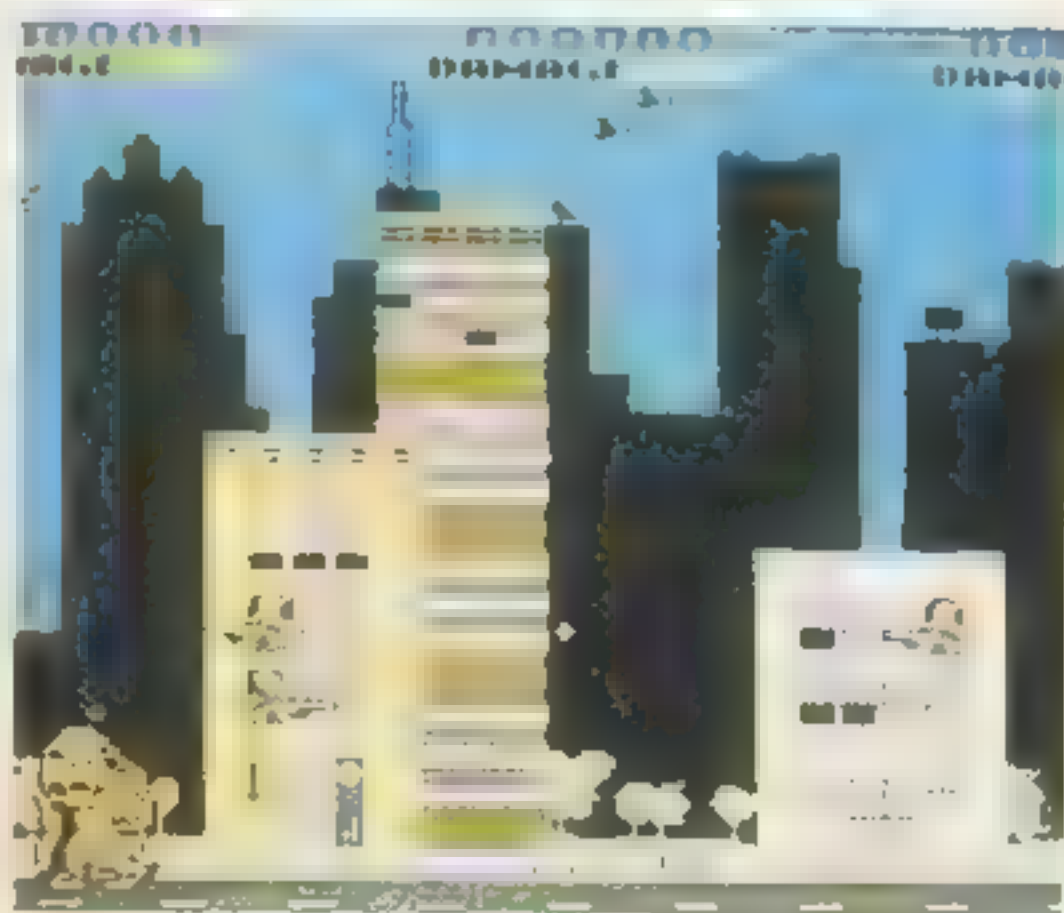


XYBOTS TENGEN/DOMARK

Xybots, the latest Tengen coin-op conversion, is a split screen, one or simultaneous two-player strategic shoot'em-up, set in a futuristic underground labyrinth infested with the monstrous metallic *Xybots*.

Unlike many games, *Xybots* allows you to team-up with the other player, or go it alone around the masses of mazes. Out later this month on Spectrum, C64, CPC, ST, Amiga and PC.

● Doubles all round this week! *Millennium 2.2* gets a big, fat five-star rating and Fielding Mellish flies to cloud nine with *Chuck Yeager*. Back down to earth, though, *Rampage* bites the dust, and *Navy Moves* threatens to sink without trace...



• You could make it with Play-Doh!

Remember the Bally Midway coin-op *Rampage*? Neither did we, until we visited the seediest-looking arcade in Southend and saw a *Rampage* collecting cigarette ash (we think!) behind the soft drinks vendor.

So was it worth resurrecting this dinosaur onto the Amiga...?

● GAMEPLAY

Rampage is a destroy-'em-up inspired by those tacky horror B-movies (no doubt to be shown soon on BBC2's *Moviedrome*) like *Godzilla the unconvincing plasticene model destroys Tokyo*. With such inspiration how could it fail to go wrong? Quite easily as a matter of fact, as there's no gameplay, chronic audio-visuals and an immediate feeling of disappointment after loading it.

● GRAPHICS AND SOUND

What passes for graphics and sound consists of Play-Doh-like monsters, out-of-proportion soldiers, and the silliest-looking helicopter sprites we've seen since infant school - all accompanied by a plethora of white noise to be heard at every possible moment.

● OTHER VERSIONS

Out a couple of years ago on the 8-bits and ST, it wasn't any great shakes on these micros either. But at least the coin-op was "in" then.

● EXPRESS VERDICT

Quite a mystery. How can the same company produce *Rampage* and *Millennium 2.2* in the same week? We asked ourselves the same question, but couldn't think of any plausible, sane or believable answer.

Rampage was lucky to be awarded a star at all.



Rik Haynes



With the sequel to the lacklustre *Army Moves*, Spanish software company Dinamic is pinning its hopes on *Navy Moves*. What's a life on the ocean wave like these days?



• C64: Waving a mine goodbye

● GAMEPLAY

Assigned to take out the enemy's new U-5544 nuclear submarine, you'll have to complete a two stage ordeal before getting the chance. Stage one throws you in a dinghy-type motorboat travelling along in a horizontally-scrolling avoid-'n'-shoot-'em-up battling against the likes of enemy motorboats and mines, and the occasional shark. Stage two is a standard platform shoot-'em-up inside the sub.

● GRAPHICS AND SOUND

The red skyline is really well done in stage one's seascape, as are the rest of the visuals, with some attractively drawn sprites to be seen in both stages of the game. Audio is OK, with standard spot-effects in-game.

● OTHER VERSIONS

We've only seen the other versions in prototype form.



• Entering a 16-bit sub-culture

MILLENNIUM 2.2

Possibly the most eagerly awaited strategy game ever, *Millennium 2.2* has finally blasted off.

● GAMEPLAY

If you're bored with controlling mundane Earthly forces, then *Millennium 2.2* may just appeal to your megalomania, as it throws you into the hectic task of rebuilding civilisation after the entire population gets wiped out in a planetary collision. All that's left is you and 100 colonists on the moon, so you'll not only have to survive but also pick up the shattered pieces of humanity.

In game controls are via icons and selection screens, as you strive to balance life support, production and research with energy and defence - while keeping an eye on your resources.

● GRAPHICS AND SOUND

Visuals are subtle rather than stunning, but are well above the norm for a strat game. Audio is a little disappointing but not as much as the appalling intro sequence - we doubt whether this will attract many punters in the stores.



• Checking on the batteries - let's hope they're Duracells

● OTHER VERSIONS

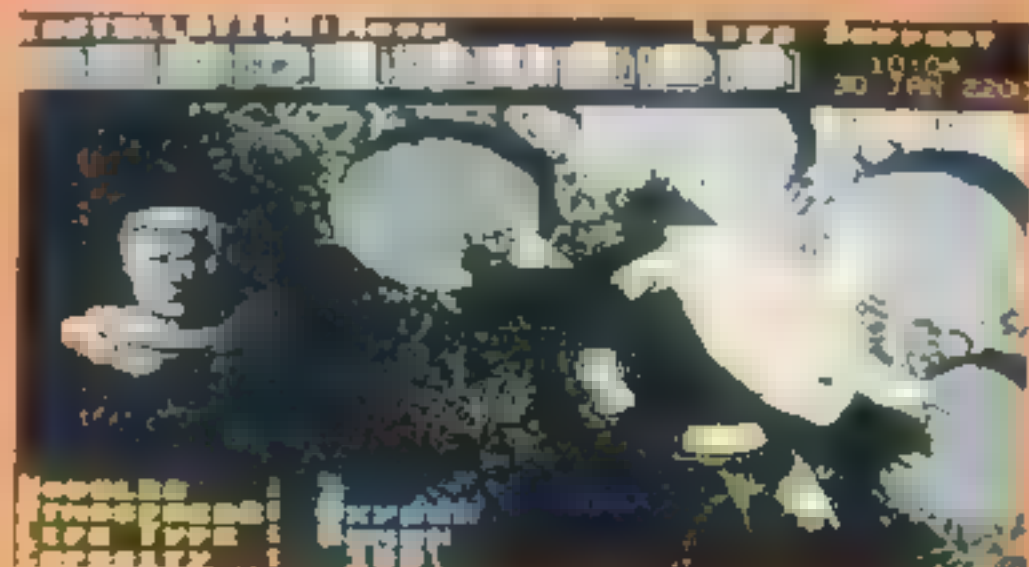
ST *Millennium 2.2* differs from the Amiga version only in audio quality - luckily it's the gameplay that counts in this one. We haven't seen the PC version yet - watch out for an update.

● EXPRESS VERDICT

Millennium 2.2 offers a lasting challenge backed up with atmospheric visuals and more than a touch of originality, thanks to its workable blend of adventure and strategy.



Rik Haynes



• All I need is the air that I breathe...and there's not much



• The green, green grass of home. Well, grey dust, actually

Win a
second drive and a
year's supply of new titles
published by Gainstar
NOW!
Look below for more info

ALIEN LEGION



Price
£24.99

ALIEN LEGION

The ultimate horizontal scrolling arcade game. You're confronted by hundreds of aliens, monsters and things from outer space. Your goal is to rescue your spaceship and fly away. Be aware warrior, this could be your last laugh.

TARGHAN

Price
£24.99

Far from Edengarhn is the castle of the evil one. Far from your village, a lord keeps the secret, such a powerful lord that he cannot be human, a creature floating a world that dies and grows again.

Targhan is an adventure-action game with more than 120 landscapes and 40 different characters. The game is playable on either keyboard or joystick. The game offers digitised sound and outstanding graphics.

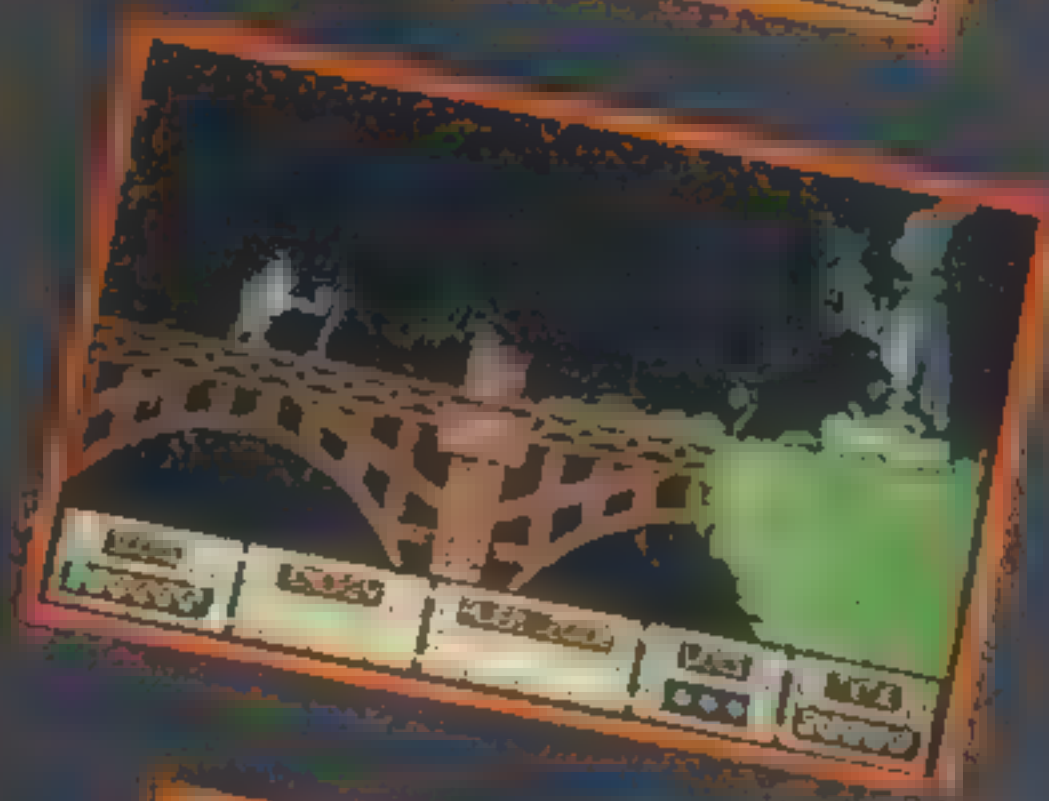
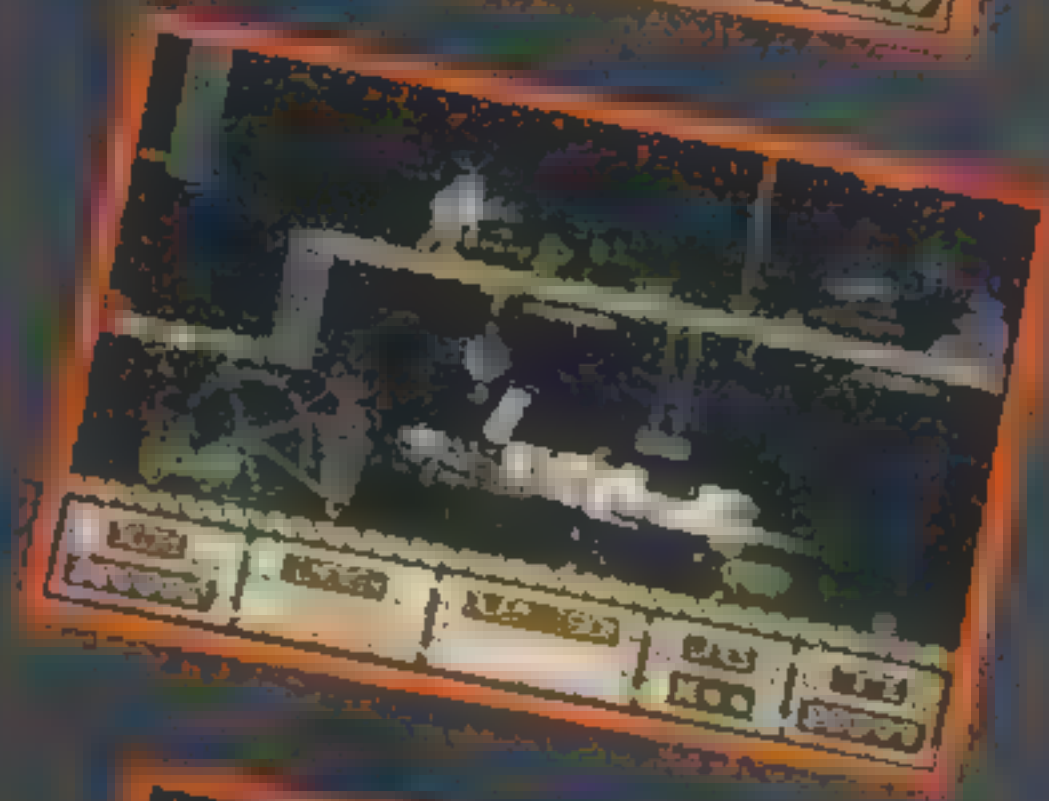
It will be released on Amiga, Atari and PC (EGA, VGA and CGA) by the end of May. The game will run on both colour and mono screens.

To enter our competition please send your warranty cards of either Tech, Alien Legion or Targhan together with proof of purchase and complete the following:

I like the games published by Gainstar because

Send your entries to: **UNIT 1 (REAR OF 7), WELLINGTON ROAD, SANDHURST, SURREY GU17 8AW** ☎ (0252) 877431-879718 • FAX: (0252) 877431

Closing date September 1, 1989



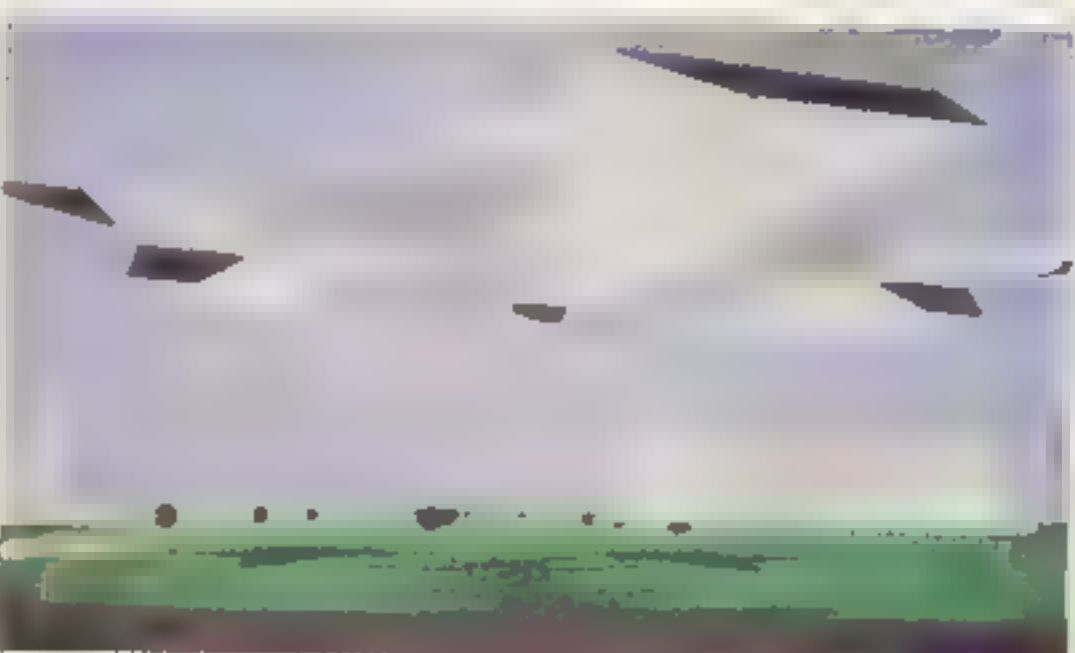
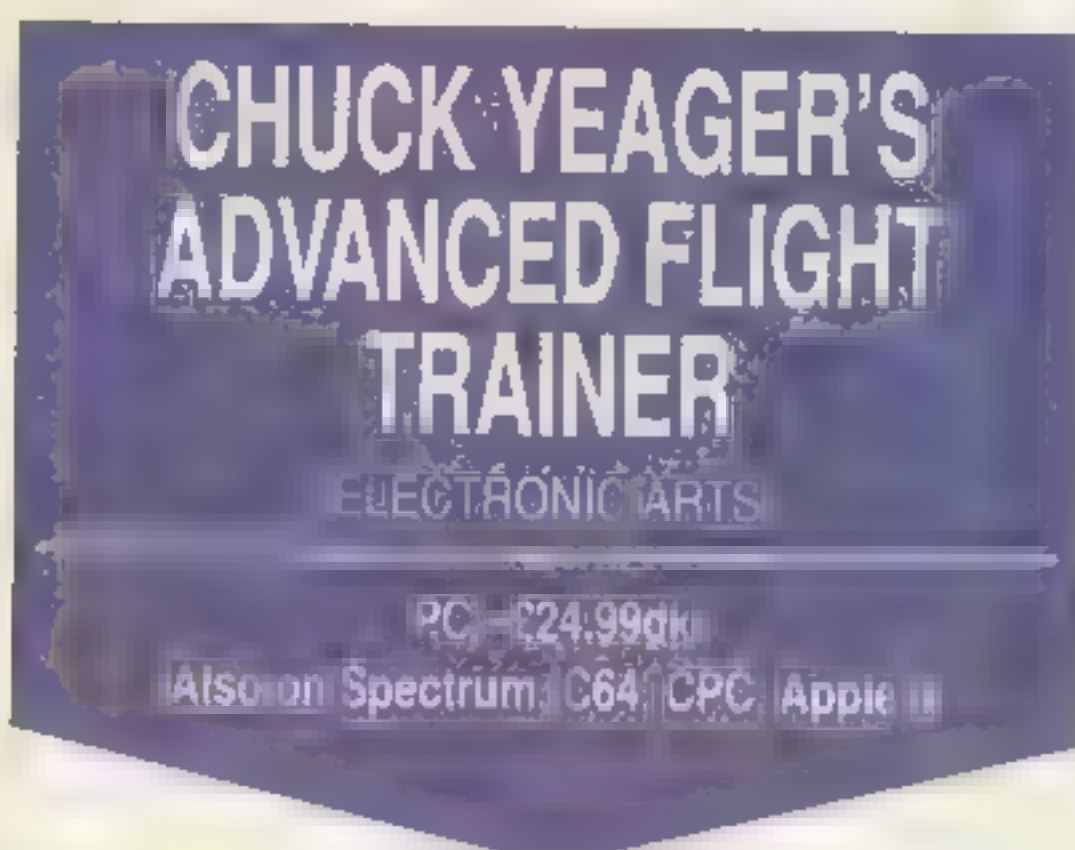
► thus far, but the Amiga and ST Navy Moves are already looking and sounding good.

● EXPRESS VERDICT

Navy Moves is a better game than its predecessor – but that wouldn't take much. The first stage gets a little tiresome after a few plays, and the second stage isn't that enthralling. Navy Moves is good for a couple of plays, but not much else.

★ ★ ★

Rik Haynes



• VGA: Which one's Chucki Yeag flying?

Look out Ginger, bandits at one o'clock. Pranged Jerry into the drink, limped home on a wing and a prayer to hearty banter in the mess with the other new bugs...

● GAMEPLAY

Yes, another flight simulator – ho hum – but this one is different – it actually has the vital ingredients realism, excitement and fun built in.

You elect to fly any one of 18 aircraft, ranging from the biplane Sopwith Camel to advanced test aircraft such as the high-flying X-15 and the Space Shuttle. You can change planes in mid flight but you must be within the limits of the new plane or else a sharp plunge into Mother Earth may ensue.

The point of this simulator is to teach you advanced flying techniques. To accomplish this, there's a cassette tape included in the packaging with Pa Yeager laying out his funky rap detailing barrel rolls, Immelmans, the Cuban and splits. On-screen tutorials from the master himself take you step by step through the intricacies of staying airborne.

Once qualified, you can fly with Chuck or race against six computer adversaries.

● GRAPHICS AND SOUND

Graphics are excellent – fast and smooth, with lots of ground detail, mountains, buildings etc. You can also chose to ride in a spotter plane and watch your own aircraft performing its manoeuvres. Instrument panels are well drawn, but with the press of a key you can remove them, thereby providing you with a full-screen, out-of-the-window view which is fast and furious. There's a playback option to allow you to critically review your flying in leisure, and you can zoom in on the simulator world at a magnification up to 256X.

Sound? Well, this is the PC, and even Electronic Arts is restricted by hardware limitations. Bung your favourite good-rockin' 'n' tape into the ghetto blaster and reach for the cliché – sorry, skies.

● OTHER VERSIONS

The 8-bit implementations of this complex simulator are



• VGA: Where's the in-flight entertainment?

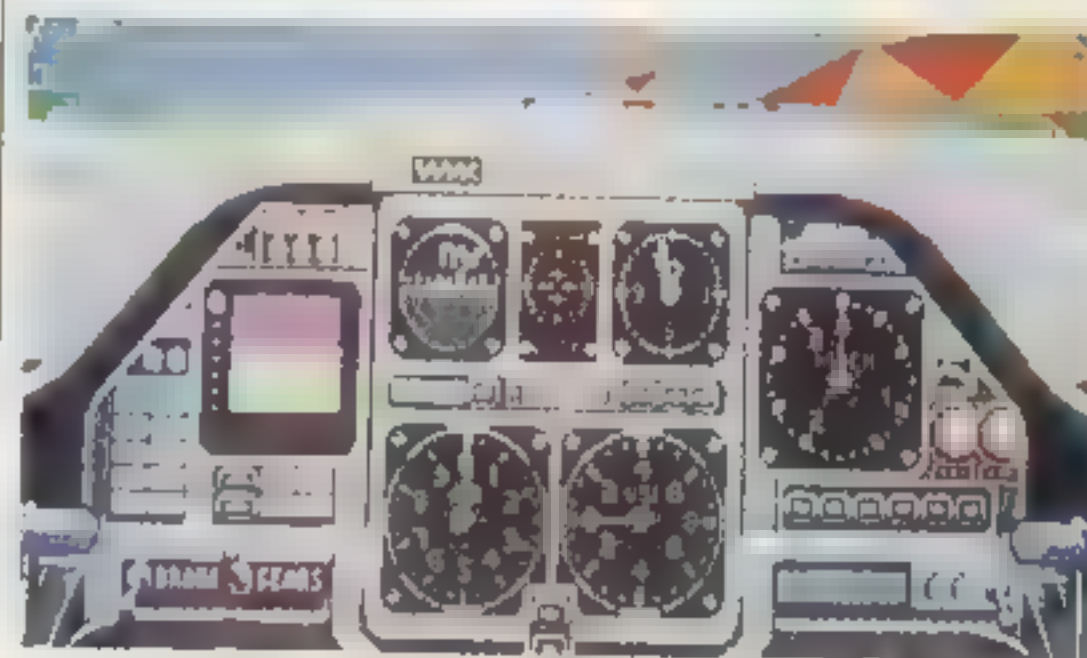
extremely well done – fast and colourful.

● EXPRESS VERDICT

Tally Ho...!

★ ★ ★ ★

Fielding 'Tin Legs' Mellish



• EGA: Cross that bridge when you come to it

The star's the limit

Rik Haynes takes to the skies with Flying Shark, but quickly comes down to Earth after seeing Star Trek

STAR TREK

Firebird/Microprose ● C64 ● £9.99cs £14.99dk ● Also on ST

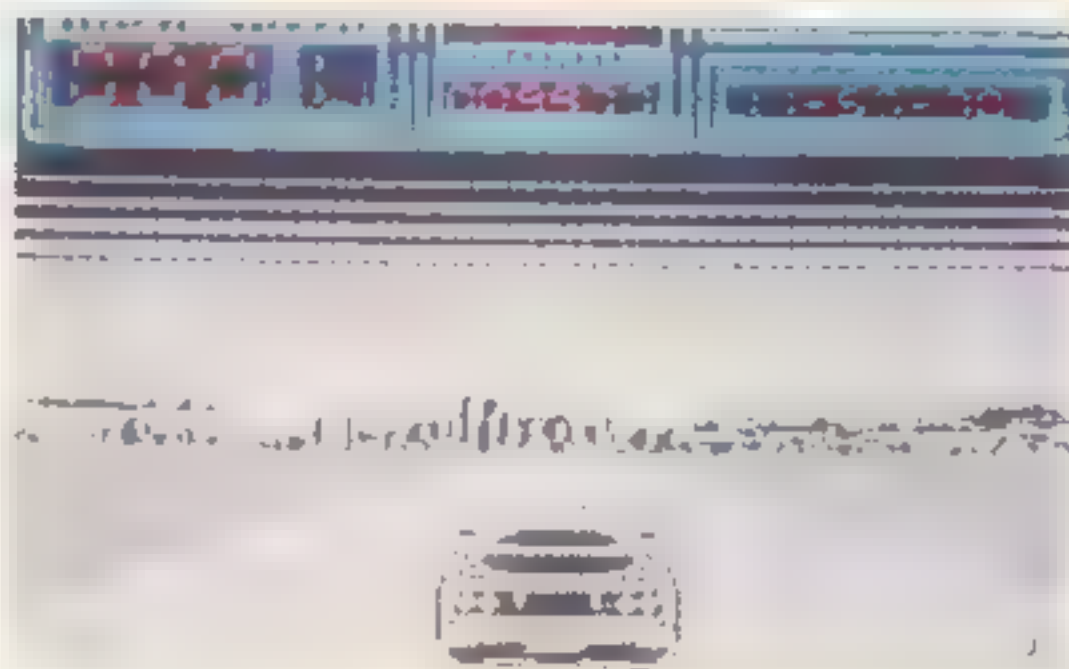
Probably the most pirated ST game ever, thanks to an early version being "distributed" on the pirate network about a year before it finally became available in the stores, Star Trek has just landed on the C64.

At least the ST version had digitised graphics and sound – both of which are sadly lacking in the C64 incarnation. All that's left is the gameplay – and there wasn't any of that in the first place. C64 Star Trek is strictly for Trekkies whose hobby has stretched to the obsessive stages of insanity.

★



• It's worse than that, it's dead Jim!



• You'd have to be crazy...

CRAZY CARS II

Titus ● Spectrum ● £8.99cs ● ST version reviewed in Express 11 ● Also on CPC, ST, Amiga ● Out soon on C64, PC

We haven't seen a Spectrum racing sim this bad for a long time. Stick to Ocean's WEC Le Mans for your boy (or girl) racing.

★ ★

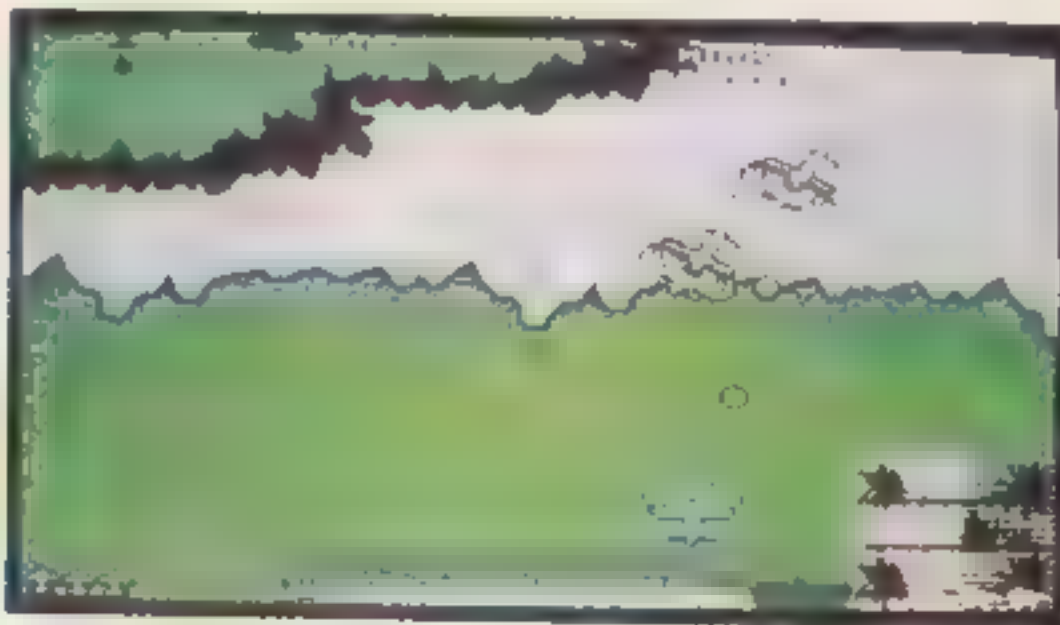
FLYING SHARK

Firebird/Microprose ● Amiga ● £24.99dk ● ST version reviewed in Express 3 ● Also on Spectrum,

C64, CPC

This great little vertically-scrolling shoot-'em-up features attractive visuals, high quality soundtrack and sound FX and one of the best cheat modes we've ever seen.

★ ★ ★

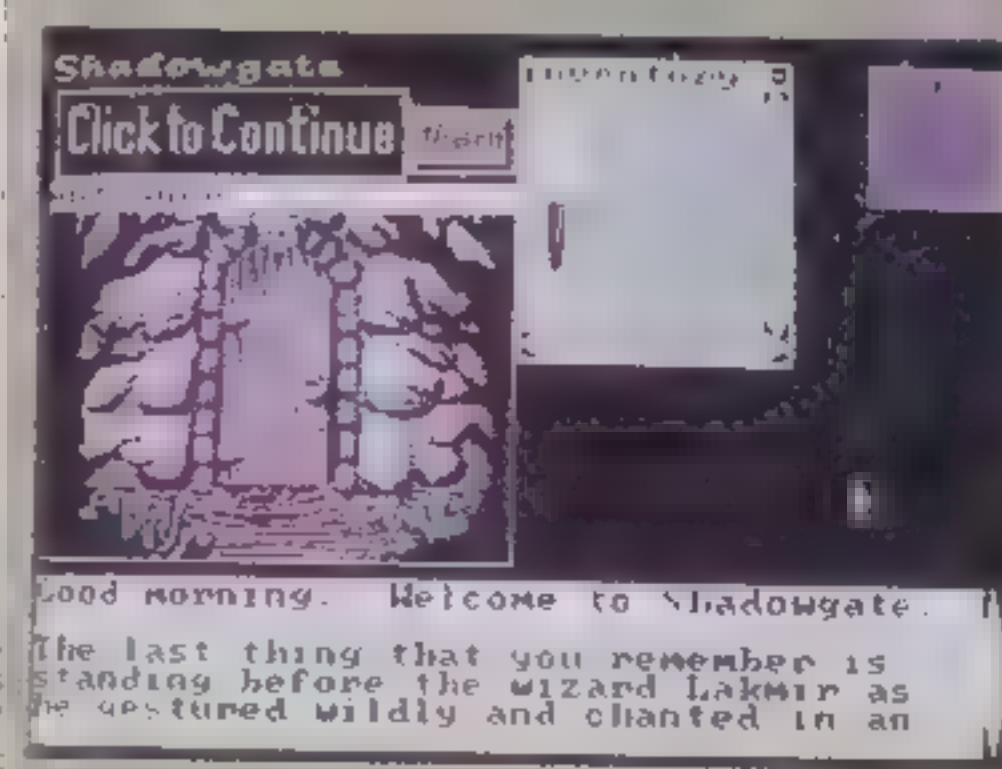


• Watch that Fokker!

Mindscape ● PC ● £24.99dk ● Also on ST, Amiga, Mac, Apple II

Frustratingly difficult, unrewarding but totally addictive role-playing cum adventure from the makers of the critically acclaimed Deja-Vu. CGA graphics are well bad though.

★ ★ ★ ★



**The
incredible
New
Computer
Express
voucher
scheme can
save you over**

£10

**when you buy
from adverts
in this
magazine!**

Full details on next page

**EXPRESS
VOUCHER**

£1

**EXPRESS
VOUCHER**

£2

**EXPRESS
VOUCHER**

£3

**EXPRESS
VOUCHER**

£4

£1 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989**.

£2 voucher. Valid for orders above £40

This voucher may be used as £2.00 part payment on any order totalling over £40 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989**.

£3 voucher. Valid for orders above £60

This voucher may be used as £3.00 part payment on any order totalling over £60 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989**.

£4 voucher. Valid for orders above £80

This voucher may be used as £4.00 part payment on any order totalling over £80 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989**.

EXPRESS VOUCHERS

How the scheme works

● The Express voucher is a special scheme to encourage you to buy *New Computer Express* regularly.

● It offers you savings of up to £10 when you buy goods through the magazine.

● The vouchers are not limited to specific items – you can save on any purchase from one of the participating advertisers.

● Most mail order advertisers in this magazine are taking part in the scheme – just look for this sign. →



● Remember. The use of just one voucher could more than recoup the price of the magazine.

THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, **provided** that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say "We Accept Express Vouchers".
2. Each voucher entitles you to a discount at the voucher's face value, **provided** that your overall order level is **higher** than the figure indicated on the back of the voucher.
3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.
4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.
5. You **must** fill in the details requested on the voucher.

ADVANTAGE

POPULAR SHAREWARE

FROM £2

- POPULAR TRIED & TESTED PROGRAMS
- THE LATEST VERSIONS
- EASY TO RUN - NO MESSY ARCHIVING
- MONEY BACK GUARANTEE
- FAST DESPATCH - FIRST CLASS

PRICES INCLUDE
VAT & POSTAGE

| | |
|--------------|------------|
| ANY 5 DISCS | £13.25 |
| 4 DISCS | £11.25 |
| 3 DISCS | £9.45 |
| 2 DISCS | £6.95 |
| 1 DISC | £3.95 |
| OVER 5 DISCS | £2.50 EACH |

For 3.5" Format
Add £1 per Disc

CALL 0242 224340 NOW !

WORD/SPREAD/BASES

- ★ PC-WRITE Quickshot's Multi-function word Processor
- ★ PC-TYPE II Brand new WP from Buttonware (HD). 4 DISCS
- ★ PC-TYPE + Fast Spelling Checker Undo Help 4 DISCS
- ★ SAIL Text editor with windowed multi-file mode
- ★ GALAXY Like Wordstar but with pull-down menus 2 DISCS
- ★ MINDREADER Brown Bags unique self-learning WP
- ★ PC-OUTLINE Popular brain storming, idea processor
- ★ SPELLING CHECKER with updateable dictionary
- ★ PC-CALC + Powerful multi-feature spreadsheet 3 DISCS
- ★ AS-EASY-AS Spreadsheet which is 123 compatible
- ★ QUBECALC A novel 3-dimensional spreadsheet
- ★ GOALSEEKER Timesaving utility helps create spreadsheets
- ★ PC-FILE+ V2 Popular Database with mailmerge 3 DISCS
- ★ PC FILE-dB dBase power at shareware prices (HD) 3 DISCS
- ★ FILE EXPRESS Easy to use database 2 DISCS
- ★ INSTANT RECALL Memory-resident database
- ★ 3 x 5 CARD INDEX simulate manual system (limited sort)
- ★ DREAM Amazing relational database system 3 DISCS
- ★ WAMPUM Popular, Powerful implementation of the dBASE III database programming language (HD) 2 DISCS

FINANCE

- ★ FREEWAY CASHBOOK UK home accounts & budget 3 DISCS
- ★ FAST BUCKS Comprehensive home accounts & budget 2 DISCS
- ★ HOME INVENTOR/HOME INSURANCE with report gen
- ★ HOME LOAN Calculate interest, repayments, reports
- ★ FREEWAY ACCOUNTS PLUS Popular UK Package complete with Purchase Sales & Nominal Ledgers 3 DISCS
- ★ FREEWAY PAYROLL Latest up-to-date UK version 3 DISCS
- ★ MR BILL Customer billing and tracking 2 DISCS
- ★ TIME & MONEY Financial tracking with cash projection

APPLICATIONS

- ★ LABEL MAKER Simple mailing label database & printing
- ★ PC-MAIL Mailing list system and label printer 2 DISCS
- ★ 100 STANDARD BUSINESS LETTERS use and adapt
- ★ EZ FORMS standard forms to edit and use
- ★ BUSINESS GRAPHICS Line, Bar Graphs, Pie Charts 3 DISCS
- ★ STOCK CONTROL SYSTEM Powerful aid any business
- ★ AUTOMATED PLANNING Useful suite planning aids
- ★ PROJECT MANAGEMENT Critical Path Analysis Gantt Charts
- ★ THE FRONT OFFICE Sales tracking system 3 DISCS
- ★ BUSINESS CONTACTS MANAGER Multi-function suite 3 DISCS
- ★ ESIE Expert System Shell Artificial Intelligence
- ★ PRO-COMM Menu-driven communications 2 DISCS
- ★ PC-DIAL Buttonware communications program
- ★ EZ-LINK UK program with full Prestel/Viewdata 2 DISCS
- ★ WILDCAT Complete Bulletin Board system 3 DISCS
- ★ STD CODES in NUMERICAL order with corresp. exchanges
- ★ DESK COMMANDO Menu System, DOS shell, Text Editor, Scientific Calculator, Calendar, Appointments Diary
- ★ PC-DESKTEAM Handy calculator, notepad, diary, DOS access
- ★ HOMEBASE Shareware Sidekick, Calculator, WP, Database, Calendar, Notepad, Communications, DOS access 3 DISCS

EDUCATION

- ★ AMANDA'S LETTER LOTTO (Age 2-4) Teaches keyboard and letter recognition and co-ordination
- ★ ABC FUNKEYS (Age 2-5) Colourful way to learn letters
- ★ AMY'S FIRST PRIMER (Age 3-6) Six games teaching basic letter and arithmetic skills
- ★ CHILDREN'S GAMES (Age 5-8) Five educational games: Alphabet, Animals, Clockgame, Hangman and Mosaic
- ★ EDUCATIONAL SELECTION (Age 6-10) Hangman (word guessing), Funnels and Buckets (arithmetic), Polyglot (word matching) and Children's Word Processor.
- ★ ANDY'S WORD GAMES Opposites, Word Find, Jobs, Synonyms, Odd Word Out, Categories, Comparisons, Plurals, Verbs (Age 6 up)
- ★ TED'S COMPENDIUM A variety of puzzles, anagrams etc
- ★ PHRAZE CRAZE Learn word and phrase skills (Age 7-12)
- ★ JOTTO Like Master mind only based on words not numbers
- ★ WIZ QUIZ (Age 6-12) Quiz-based maths tutorial
- ★ MATHS TUTOR (6-Adult) Covers basic to advanced maths
- ★ PC-TUTOR Well-presented course on computers & DOS
- ★ HELPDOS All you need to know about DOS
- ★ FASTYPE Popular multi-option PC typing course
- ★ GCSE PHYSICS REVISION Novel way to learn Physics
- ★ GCSE COMPUTER SCIENCE REVISION Novel way to learn
- ★ STATISTICS Over 20 stat analysis functions. 3 DISCS
- ★ NIGHTSKY The latest computer planetarium. 3 DISCS
- ★ TEST & TRAIN Build your own training program
- ★ Foreign languages each on a single disc: FRENCH TUTOR
- ★ GERMAN TUTOR ITALIAN TUTOR SPANISH TUTOR

GAMES COMPENDIUMS

Advantage have collected many quality games, grouped by style, under various titles. Most games offer graphics and sound with a choice of keyboard or joystick gameplay

- ★ CLASSIC GAMES - Space Invaders, Pacman, Pacgirl, Ribil, Breakout, Donkey Kong Q-Bert, Jumping Joe
- ★ FUN & GAMES - Pango, Baby, Elevator, Centipede, Pyramid Dragons, Pac Osbil
- ★ COME IN PEACE - Striker Paratrooper, Round 42, Sopwith, Landmine Hostages
- ★ STAR WARRIORS - Quantolds, Rescue, Flightmare, Kamakaze, Space Wars, Emergency Mission
- ★ KEEP THEM AMUSED Burglar Blaster, Grime, Racer, Ninja, Caverns and Galaxy
- ★ FACE THE ACTION Batalia, Tank, Moonbase, Blortil, Gemini
- ★ BLOCK & TACKLE Nemon, Oix Xonix, Blockade, Lazer, Berzerk
- ★ GOOD SPORTS PC Tennis, Teed Off (Golf), Yachting in the Bermuda Triangle, Armchair Quarterback (Football)
- ★ SEEK & DESTROY Galactic Conquest, Daleks, Depth Charge, Lazy Monday Intercept
- ★ SPY CATCHER Master Spy Brimstone, Mad scientist, Raider
- ★ LOST VEGAS - One Arm Bandit, Roulette, Backgammon, Wheel of Fortune and Biorhythms
- ★ SKILL & STRATEGY - Frigate, Stock Exchange, Big Rig
- ★ WIT YOUR PITS Brainstorm, Battleships 5-in-a-line, Rogue
- ★ MAZING GAMES - Treasure Hunt, Polymaze, Amaze, 3-Demon, Castle, Chase
- ★ PC CHALLENGE - Chess, Othello, Entrap, PCGolf, Hexplode, Air Traffic Controller
- ★ JUNIOR CHALLENGE - 3D TicTacTo, Dotto, Willy The Worm, Labbits & Voldrons, Draughts, Mastermind

Join the Advantage Independent
Computer User Group and choose
ANY Shareware discs for just £2 each
(3.5" format £3 each)

- ★ PLUS ★ £2 Off each commercial compiler and toolbox package
- ★ PLUS ★ monthly newsletters
- ★ PLUS ★ technical support

Annual membership is £15 (EC Countries) £18 (non-EC countries)

SPECIAL INTEREST

- ★ FAMILY HISTORY Reckoned to be best on genealogy 3 DISCS
- ★ FAMILY TIES Easy to use Menu-driven Genealogy program
- ★ WEIGHTWATCHER Calorie Charts, diet and weight planning
- ★ ASTROL-95 Plot astrological charts and horoscopes 3 DISCS
- ★ BIORHYTHM MONTHLY Comprehensive plotter and printer
- ★ VCR DATABASE for cataloguing videos, LP's etc
- ★ MICRO MENU Recipe system offers many useful recipes
- ★ MATCH MAKER Now you can start your own dating agency!
- ★ PC SPORT Useful league table generator
- ★ WORLD Extensive gazetteer of places in the World
- ★ CROSSWORD CREATOR all you need to make your own puzzles
- ★ CROSSWORD SOLVER and anagram generator with dictionary
- ★ COMPOSER Create, play & save tunes using on-screen slave
- ★ PIANOMAN Turn your PC keyboard into a musical one
- ★ BIBLE READER Compressed down with easy reader 3 DISCS
- ★ THE ENTIRE KING JAMES BIBLE as ASCII text 11 DISCS

PROGRAMMING

- ★ BASIC INTERPRETER Write and run standard GWBASIC
- ★ PASCAL COMPILER A good introduction to Pascal
- ★ MYSTIC PASCAL compiler and editor
- ★ MODULA-2 COMPILER with editor and linker 3 DISCS
- ★ PROLOG The language for Artificial Intelligence
- ★ LADYBUG LOGO - Ideal for teaching programming
- ★ BASIC TUTOR introductory tutorial on BASIC
- ★ GETTING STARTED ON C Introductory lessons and examples
- ★ GETTING STARTED ON ASSEMBLER Useful introduction
- ★ C AND TURBO C TUTOR with source code examples 2
- ★ CHASM Machine code assembler for the 8086 with Primer
- ★ A86.D86 Powerful 8086 Assembler with debugger 2 DISCS

ADVENTURES

- ★ GOLDEN WOMBAT OF DESTINY Intriguing & unusual adventure
- ★ JACARANDA JIM Offbeat and amusing UK adventure
- ★ HACK (Amulet Of Yendor) Extensive role-playing adventure
- ★ DUNGEONS & DRAGONS Fantasy role-playing adventure
- ★ COLOSSAL CAVE ADVENTURE The one that started it
- ★ CAVE QUEST sent to Earth to seek fame and fortune
- ★ SUPERNOVA Complex game set in deep space
- ★ INTERCEPT & MUTANT INVASION Two Sci-fi adventures
- ★ DARK CONTINENT & NEBULA Two games by same author
- ★ QUEST FOR KUKULKAN and UNDER THE ICE Two games

DISC ORGANISATION

- ★ POWER MENU Brown Bag's easy to use hard disc menu system
- ★ AUTO MENU Design your own menu for your hard disc
- ★ STILL RIVER SHELL Better front-end than the DOS prompt!
- ★ DBS KAT Cataloguing system for hard disc
- ★ DISKCAT Cataloguing system for floppy discs
- ★ DISK COMMANDO Norton utilities at Shareware prices
- ★ ULTRA UTILITIES "Disc Doctor" with directory of erased files, unerase, sector and file editor
- ★ PROFESSIONAL MASTER KEY New version of this powerful sector and file editor for hard or floppy disc
- ★ PACKDISC Eliminates file fragmentation, economise & speed up your hard disc system
- ★ ARCHIVE SYSTEM Save up to half your backup disks
- ★ HYPER SHELL Menu text presentation and management system
- ★ FLU SHOT Helps you deal with and avoid viruses

UTILITIES UNLIMITED

- ★ ESSENTIAL UTILITIES Over 50 of the best available
- ★ ADVANCED UTILITIES More specialised collection
- ★ USEFUL UTILITIES A further set of over 30 programs
- ★ BAKER'S DOZEN Thirteen useful programs from Buttonware
- ★ TEXT PROCESSING Printer Control, Spooler, Print Sideways, Tally Word Counter, Filters, Fogfinder, Lister
- ★ LASER PRINTER UTILITIES & FONTS 3 DISCS
- ★ LQ Different printer fonts to enhance your WP text
- ★ FONTASTIC introduction to DTP with font editor 2 DISCS
- ★ SIGNSMITH Create your own posters and letter heads

BOARD & CARD GAMES

- ★ SCRABBLE Good implementation of the board game
- ★ SLEUTH Exciting murder mystery solving game
- ★ WORLD DOMINATION The classic game of risk and strategy
- ★ PC-OPOLY Computer version of the well-known board game
- ★ CHESS & CHECKERS Good quality full screen graphic versions
- ★ CHINESE CHECKERS Unusual 6-sided version of draughts
- ★ GAMBLERS DEN Three games: 21, Poker and Pontoon
- ★ BLACKJACK features excellent card pictures and game play
- ★ PUB GAMES Dominoes and Cribbage
- ★ PATIENCE APPLETNY 3 games: Solitaire, Pyramid and Sol
- ★ CARD SCHOOL 3 games: Canasta, Gin Rummy & Heart
- ★ MAHJONG A fascinating taste of the Far East
- ★ TWO BRIDGES Two versions of the card game
- ★ QUIMBEE (YAHTZEE) and FIVE Two dice-based games

PROJECTS & PASTIMES

- ★ WHEEL OF MISFORTUNE Based on the TV word-guessing game
- ★ OPUS-1 Extensive general knowledge quiz
- ★ TRIVIA QUIZ Many questions, 5 categories 2 DISCS
- ★ TREK TRIVIA Fascinating quiz based on famous TV series
- ★ BIBLE QUIZ Quiz game based on the Holy Bible
- ★ MUSIC TRIVIA Quiz based on musical questions
- ★ GET LUCKY Adult Trivia Quiz and strip poker games
- ★ ADULT HUMOUR Large collection of rather rude jokes
- ★ GAME OF LIFE Fascinating animated graphics game
- ★ PC JOKES A set of funny but harmless practical jokes
- ★ ORIGAMI Study paper folding (needs BASIC interpreter)
- ★ GREETINGWARE DIY computer greeting cards with demos
- ★ SHOWING OFF YOUR EGA Demo screens, animated patterns
- ★ MANDELBROT MAGIC Graphic demonstration and designer
- ★ POPSTAR First in a series of unusual UK games
- ★ SNARF High quality EGA game plus EGA Breakout
- ★ TANK BATTLES A two-player challenge
- ★ STAR TREK II The next generation featuring Morning Cloud
- ★ STAR TREK The original classic game, text & graphics
- ★ PINBALL WIZARD A choice of five different pinballs
- ★ PINBALL FANATIC Five more different pinballs

ADVANTAGE (NCE) 56 BATH ROAD, CHELTENHAM, GL53 7HJ. TEL: 0242 224340

£1 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989.**

£2 voucher. Valid for orders above £40

This voucher may be used as £2.00 part payment on any order totalling over £40 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989.**

£3 voucher. Valid for orders above £60

This voucher may be used as £3.00 part payment on any order totalling over £60 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989.**

£4 voucher. Valid for orders above £80

This voucher may be used as £4.00 part payment on any order totalling over £80 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item (s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 2, 1989.**

VOUCHERS

How the scheme works

● The Express voucher is a special scheme to encourage you to buy *New Computer Express* regularly.

● It offers you savings of up to £10 when you buy goods through the magazine.

● The vouchers are not limited to specific items – you can save on any purchase from one of the participating advertisers.

● Most mail order advertisers in this magazine are taking part in the scheme – just look for this sign. →



● Remember. The use of just one voucher could more than recoup the price of the magazine.

THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, provided that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say "We Accept Express Vouchers".
2. Each voucher entitles you to a discount at the voucher's face value, provided that your overall order level is **higher** than the figure indicated on the back of the voucher.
3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.
4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.
5. You must fill in the details requested on the voucher.

ADVANTAGE POPULAR SHAREWARE

FROM £2

- POPULAR TRIED & TESTED PROGRAMS
- THE LATEST VERSIONS
- EASY TO RUN - NO MESSY ARCHIVING
- MONEY BACK GUARANTEE
- FAST DESPATCH - FIRST CLASS

PRICES INCLUDE VAT & POSTAGE

| | |
|--------------|------------|
| ANY 5 DISCS | £13.25 |
| 4 DISCS | £11.25 |
| 3 DISCS | £9.45 |
| 2 DISCS | £6.95 |
| 1 DISC | £3.95 |
| OVER 5 DISCS | £2.50 EACH |

For 3.5" Format
Add £1 per Disc

CALL 0242 224340 NOW !

WORD/SPREAD/BASES

- ★ PC-WRITE Quickshot's Multi-function word Processor
- ★ PC-TYPE II Brand new WP from Buttonware (HD), 4 DISCS
- ★ PC-TYPE + Fast Spelling Checker, Undo, Help, 4 DISCS
- ★ SAIL Text editor with windowed multi-file mode
- ★ GALAXY Like Wordstar but with pull-down menus, 2 DISCS
- ★ MINDREADER Brown Bags unique self-learning WP
- ★ PC-OUTLINE Popular brain storming, idea processor
- ★ SPELLING CHECKER with updateable dictionary
- ★ PC-CALC + Powerful multi-feature spreadsheet, 3 DISCS
- ★ AS-EASY-AS Spreadsheet which is 123 compatible
- ★ QUBECALC A novel 3-dimensional spreadsheet
- ★ GOALSEEKER Timesaving utility helps create spreadsheets
- ★ PC-FILE+ V2 Popular Database with mailmerge, 3 DISCS
- ★ PC FILE-dB dBase power shareware prices (HD) 3 DISCS
- ★ FILE EXPRESS Easy to use database, 2 DISCS
- ★ INSTANT RECALL Memory-resident database
- ★ 3 x 5 CARD INDEX simulate manual system (limited sort)
- ★ DREAM Amazing relational database system, 3 DISCS
- ★ WAMPUM Popular, Powerful implementation of the dBASE III database programming language (HD) 3 DISCS

FINANCE

- ★ FREEWAY CASHBOOK UK home accounts & budget, 3 DISCS
- ★ FAST BUCKS Comprehensive home accounts & budget, 2 DISCS
- ★ HOME INVENTOR/HOME INSURANCE with report gen.
- ★ HOME LOAN Calculate interest, repayments, reports
- ★ FREEWAY ACCOUNTS PLUS Popular UK Package complete with Purchase, Sales & Nominal Ledgers, 3 DISCS
- ★ FREEWAY PAYROLL Latest up-to-date UK version, 3 DISCS
- ★ MR BILL Customer billing and tracking, 2 DISCS
- ★ TIME & MONEY Financial tracking with cash projection

APPLICATIONS

- ★ LABEL MAKER Simple mailing label database & printing
- ★ PC-MAIL Mailing list system and label printer, 2 DISCS
- ★ 100 STANDARD BUSINESS LETTERS to use and adapt
- ★ EZ FORMS standard forms edit and use
- ★ BUSINESS GRAPHICS Line, Bar Graphs, Pie Charts, 2 DISCS
- ★ STOCK CONTROL SYSTEM Powerful aid any business
- ★ AUTOMATED PLANNING Useful suite planning aids
- ★ PROJECT MANAGEMENT Critical Path Analysis, Gantt Charts
- ★ THE FRONT OFFICE Sales tracking system, 3 DISCS
- ★ BUSINESS CONTACTS MANAGER Multi-function suite, 3 DISCS
- ★ ESIE Expert System Shell: Artificial Intelligence
- ★ PRO-COMM Menu-driven communications, 3 DISCS
- ★ PC-DIAL Buttonware communications program
- ★ EZ-LINK UK program with full Prestel/Viewdata, 2 DISCS
- ★ WILDCAT Complete Bulletin Board system, 3 DISCS
- ★ STD CODES in NUMERICAL order with corresp. exchanges
- ★ DESK COMMANDO Menu System, DOS shell, Text Editor, Scientific Calculator, Calendar, Appointments Diary
- ★ PC-DESKTEAM Handy calculator, notepad, diary, DOS access
- ★ HOMEBASE Shareware Sidekick, Calculator, WP, Database, Calendar, Notepad, Communications, DOS access, 3 DISCS

EDUCATION

- ★ AMANDA'S LETTER LOTTO (Age 2-4) Teaches keyboard and letter recognition and co-ordination.
- ★ ABC FUNKEYS (Age 2-5) Colourful way to learn letters
- ★ AMY'S FIRST PRIMER (Age 3-6) Six games teaching basic letter and arithmetic skills
- ★ CHILDREN'S GAMES (Age 5-8) Five educational games: Alphabet, Animals, Clockgame, Hangman and Mosaic
- ★ EDUCATIONAL SELECTION (Age 6-10) Hangman (word guessing), Funnels and Buckets (arithmetic), Polyglot (word matching) and Children's Word Processor.
- ★ ANDY'S WORD GAMES Opposites, Word Find, Jobs, Synonyms, Odd Word Out, Categories, Comparisons, Plurals, Verbs (Age 6 up)
- ★ TED'S COMPENDIUM A variety puzzles, anagrams etc
- ★ PHRAZE CRAZE Learn word and phrase skills (Age 7-12)
- ★ JOTTO Like Master mind only based on words not numbers
- ★ WIZ QUIZ (Age 6-12) Quiz-based maths tutorial
- ★ MATHS TUTOR (6-Adult) Covers basic to advanced maths
- ★ PC-TUTOR Well-presented course on computers & DOS
- ★ HELPDOS All you need to know about DOS
- ★ FASTYPE Popular multi-option PC typing course
- ★ GCSE PHYSICS REVISION Novel way to learn Physics
- ★ GCSE COMPUTER SCIENCE REVISION Novel way to learn
- ★ STATISTICS Over 20 stat analysis functions, 3 DISCS
- ★ NIGHTSKY The latest computer planetarium, 2 DISCS
- ★ TEST & TRAIN Build your own training program
- ★ Foreign languages each on a single disc: * FRENCH TUTOR
- ★ GERMAN TUTOR * ITALIAN TUTOR * SPANISH TUTOR

GAMES COMPENDIUMS

Advantage have collected many quality games, grouped by style, under various titles. Most games offer graphics and sound with a choice of keyboard or joystick gameplay.

- ★ CLASSIC GAMES - Space Invaders, Pacman, Pacgirl, Ribit, Breakout, Donkey Kong Q-Bert, Jumping Joe
- ★ FUN & GAMES - Pango, Baby, Elevator, Centipede, Pyramid, Dragons, Pac, Osbit
- ★ COME IN PEACE - Striker, Paratrooper, Round 42, Sopwith, Landmine, Hostages
- ★ STAR WARRIORS - Quantoids, Rescue, Flightmare, Kamakaze, Space Wars, Emergency Mission
- ★ KEEP THEM AMUSED Burglar Blaster, Grime, Racer, Ninja, Caverns and Galaxy
- ★ FACE THE ACTION Batalia, Tank, Moonbase, Blortil, Gemini
- ★ BLOCK & TACKLE Nemon, Oix Xonix, Blockade, Lazer, Berzerk
- ★ GOOD SPORTS PC Tennis, Teed Off (Golf) Yachting in the Bermuda Triangle, Armchair Quarterback (Football)
- ★ SEEK & DESTROY Galactic Conquest, Daleks, Depth Charge, Lazy Monday, Intercept
- ★ SPY CATCHER Master Spy, Brimstone, Mad scientist, Raider
- ★ LOST VEGAS - One Arm Bandit, Roulette, Backgammon, Wheel of Fortune, and Biorhythms
- ★ SKILL & STRATEGY - Frigate, Stock Exchange, Big Rig
- ★ WIT YOUR PITS Brainstorm, Battleships, 5-in-a-line, Rogue
- ★ MAZING GAMES - Treasure Hunt, Polymaze, Amaze, 3-Demon, Castle, Chase
- ★ PC CHALLENGE - Chess, Othello, Entrap, PCGolf, Hexplode, Air Traffic Controller
- ★ JUNIOR CHALLENGE - 3D TicTacTo, Dotto, Willy The Worm, Labbits & Voldrons, Draughts, Mastermind

**Join the Advantage Independent
Computer User Group and choose
ANY Shareware discs for just £2 each
(3.5" format £3 each)**

- ★ PLUS ★ £2 Off each commercial compiler and toolbox package
- ★ PLUS ★ monthly newsletters
- ★ PLUS ★ technical support

**Annual membership is £15 (EC
Countries) £18 (non-EC countries)**

SPECIAL INTEREST

- ★ FAMILY HISTORY Reckoned be best on genealogy, 3 DISCS
- ★ FAMILY TIES Easy to use Menu-driven Genealogy program
- ★ WEIGHTWATCHER Calorie Charts, diet and weight planning
- ★ ASTROL-95 Plot astrological charts and horoscopes, 3 DISCS
- ★ BIORHYTHM MONTHLY Comprehensive plotter and printer
- ★ VCR DATABASE for cataloguing videos, LP's etc.
- ★ MICRO MENU Recipe system offers many useful recipes
- ★ MATCH MAKER Now you can start your own dating agency!
- ★ PC SPORT Useful league table generator
- ★ WORLD Extensive gazetteer places in the World
- ★ CROSSWORD CREATOR all you need to make your own puzzles
- ★ CROSSWORD SOLVER and anagram generator with dictionary
- ★ PIANOMAN Create, play & save tunes using on-screen stave
- ★ C AND TURBO C TUTOR Turn your PC keyboard into a musical one
- ★ BIBLE READER Compressed down with easy reader, 3 DISCS
- ★ THE ENTIRE KING JAMES BIBLE in ASCII text, 11 DISCS

PROGRAMMING

- ★ BASIC INTERPRETER Write and run standard GWBASIC
- ★ PASCAL COMPILER A good introduction to Pascal
- ★ MYSTIC PASCAL compiler and editor
- ★ MODULA-2 COMPILER with editor and linker, 3 DISCS
- ★ PROLOG The language for Artificial Intelligence
- ★ LADYBUG LOGO - Ideal for teaching programming
- ★ BASIC TUTOR introductory tutorial on BASIC
- ★ GETTING STARTED ON C Introductory lessons and examples
- ★ GETTING STARTED ON ASSEMBLER Useful introduction
- ★ C AND TURBO C TUTOR with source code examples 2
- ★ CHASM Machine code assembler for the 8086 with Primer
- ★ A86/D86 Powerful 8086 Assembler with debugger, 3 DISCS

ADVENTURES

- ★ GOLDEN WOMBAT OF DESTINY Intriguing & unusual adventure
- ★ JACARANDA JIM Offbeat and amusing UK adventure
- ★ HACK (Amulet Of Yendor). Extensive role-playing adventure
- ★ DUNGEONS & DRAGONS Fantasy role-playing adventure
- ★ COLOSSAL CAVE ADVENTURE The one that started it
- ★ CAVE QUEST sent Earth to seek fame and fortune
- ★ SUPERNOVA Complex game set in deep space
- ★ INTERCEPT & MUTANT INVASION Two Sci-fi adventures
- ★ DARK CONTINENT & NEBULA Two games by same author
- ★ QUEST FOR KUKULKAN and UNDER THE ICE Two games

DISC ORGANISATION

- ★ POWER MENU Brown Bag's easy to use hard disc menu system
- ★ AUTO MENU Design your own menu for your hard disc
- ★ STILL RIVER SHELL Better front-end than the DOS prompt!
- ★ DBS KAT Cataloguing system for hard disc
- ★ DISKCAT Cataloguing system for floppy discs
- ★ DISK COMMANDO Norton utilities at Shareware prices
- ★ ULTRA UTILITIES "Disc Doctor" with directory of erased files, unerase, sector and file editor
- ★ PROFESSIONAL MASTER KEY New version this powerful sector and file editor for hard or floppy disc
- ★ PACKDISC Eliminates file fragmentation, economise & speed up your hard disc system
- ★ ARCHIVE SYSTEM Save up to half your backup disks
- ★ HYPERHELL Menu text presentation and management system
- ★ FLU SHOT Helps you deal with and avoid viruses

UTILITIES UNLIMITED

- ★ ESSENTIAL UTILITIES Over 50 of the best available
- ★ ADVANCED UTILITIES More specialised collection
- ★ USEFUL UTILITIES A further set of over 30 programs
- ★ BAKER'S DOZEN Thirteen useful programs from Buttonware
- ★ TEXT PROCESSING Printer Control, Spooler, Print Sideways, Tally Word Counter, Filters, Fogfinder, Lister
- ★ LASER PRINTER UTILITIES & FONTS, 3 DISCS
- ★ LO Different printer fonts to enhance your WP text
- ★ FONTASTIC introduction to DTP with font editor, 2 DISCS
- ★ SIGNSMITH Create your own posters and letter heads

BOARD & CARD GAMES

- ★ SCRABBLE Good implementation of the board game
- ★ SLEUTH Exciting murder mystery solving game
- ★ WORLD DOMINATION The classic game of risk and strategy
- ★ PC-OPOLY Computer version of the well-known board game
- ★ CHESS & CHECKERS Good quality full screen graphic versions
- ★ CHINESE CHECKERS Unusual 6-sided version of draughts
- ★ GAMBLERS DEN Three games- 21, Poker and Pontoon
- ★ BLACKJACK features excellent card pictures and game play
- ★ PUB GAMES Dominoes and Cribbage
- ★ PATIENCE APPLenty 3 games - Solitaire, Pyramid and Sol
- ★ CARD SCHOOL 3 games - Canasta, Gin Rummy & Heart
- ★ MAHJONG A fascinating taste of the Far East
- ★ TWO BRIDGES Two versions of the card game
- ★ QUIMBEE (YAHTZEE) and FIVE Two dice-based games

PROJECTS & PASTIMES

- ★ WHEEL OF MISFORTUNE Based on the TV word-guessing game
- ★ OPUS-1 Extensive general knowledge quiz
- ★ TRIVIA QUIZ Many questions, 5 categories, 2 DISCS
- ★ TREK TRIVIA Fascinating quiz based on famous TV series
- ★ BIBLE QUIZ Quiz game based on the Holy Bible
- ★ MUSIC TRIVIA Quiz based on musical questions
- ★ GET LUCKY Adult trivia Quiz and strip poker games
- ★ ADULT HUMOUR Large collection of rather rude jokes
- ★ GAME OF LIFE Fascinating animated graphics game
- ★ PC JOKES A set of funny but harmless practical jokes
- ★ ORIGAMI Study paper folding (needs BASIC interpreter)
- ★ GREETINWARE DIY computer greeting cards with demos
- ★ SHOWING OFF YOUR EGA Demo screens, animated patterns
- ★ MANDELBROT MAGIC Graphic demonstration and designer
- ★ POPSTAR First in a series of unusual UK games
- ★ SNARF High quality EGA game plus EGA Breakout
- ★ TANK BATTLES A two-player challenge
- ★ STAR TREK II The next generation featuring Morning Cloud
- ★ STAR TREK The original classic game, text & graphics
- ★ PINBALL WIZARD A choice of five different pinballs
- ★ PINBALL FANATIC Five more different pinballs

ADVANTAGE (NCE) 56 BATH ROAD, CHELTENHAM, GL53 7HJ. TEL: 0242 224340

Computer Chaos

**More true life cases of electronic anarchy
from Mel Croucher's Archives**

Carson City, Nevada, USA

The State Supreme Court condemns Philip Preston Anderson for cheating at blackjack in a Las Vegas casino during the Christmas of 1987.

Anderson is tired of employing hunches and gut reactions, and has gone for something a little more intimate by strapping a microcomputer to his calf. Wires run down to switches in his shoes so that he can tap his toes to keep track of the cards already played. The computer then calculates his gambling odds and sends 'vibratory signals' to a special receiver which is also attached by wires.

The 'special receiver' is Mr Anderson's penis.
Rochester Democrat and Chronicle

Massachusetts Institute of Technology, USA

When the old and tired MIT 7094 is finally closed down, it is discovered that a low-priority job has not yet been run.

The operating system has delayed execution of the program in question for no less than six years, three months and two days.
Operating Systems Concepts

Pittsburgh, Pennsylvania, USA

In 1988 the Pittsburgh City Water Authority switched over to a new computerised billing system.

I thought you might like to see a copy of my water bill, and answer the question, 'why don't programmers know that mechanical dials wrap around?'

Previous meter reading 988:
Current meter reading 2: Amount used - 986 units... your account has been credited.

Tom Lane

Riyadh, Saudi Arabia

Fed up with constant bickering between his many wives, thirty-eight year-old Arabian millionaire Saleh-el-Modia installs a computer system to organise his harem.

He keys in his ladies' ages, birthdays, anniversaries, clothes sizes, menstrual cycles, sundry medical details and sexual proclivities and the machine coughs up a weekly schedule for the would-be desert Casanova.

The computer makes a cock up, to coin a phrase, but Saleh refuses to get rid of the machine believing it to be infallible.

One of his wives gives a tearful interview, relating the sad story of how the computer forces her husband to adhere to a punishing schedule, and the reason why he is now in hospital suffering from mental and physical exhaustion.
Dubai Gulf News

China Lake, California, USA

On 29th July 1987 a programmer is cleaning his PC, which has been in use for some time and built up a static charge on the screen.

He applies window cleaner with a tissue, but when his finger hits the screen it causes a spark which ignites the cleaning alcohol and detonates an explosion. This results in Red Alert number X7-S-87-01.

The reason for such panic is because the PC is in the middle of the Naval Weapons Centre, linked to the Goddard Space Flight Centre, where alcohol, explosions and accidental warfare are strictly not allowed.
New York Times

University of Delaware, USA

Basit Farooq Alvi is a 19 year-old student in Lahore, Pakistan, who runs a small local computer store. In 1986 he writes a computer virus 'for fun' and gives it his brother Amjad.

In 1988, the University of Delaware databases are among several institutions whose databanks have been heavily infected by a nasty wee virus codenamed '©BRAIN', but the culprit is immediately traced. Mr Alvi has made the mistake of including his name, address and telephone number in the subcode.

The Chronicle of Higher Education

Shoot from the Lip... the week's most quotable sayings

"In ten years time no-one will believe the hours we spend now staring at VDUs."
Eye specialist Tony Adams looking into the future

"The Law Commission's recently produced working paper on computer misuse wholly fails to recognise the need for a computer crime statute."

"Existing criminal law is inadequate to

deter hackers. It is also confusing and illogical."
Practising barrister Sean Overend being pessimistic about computer crime

"The personal computer in a networked environment is getting close to competing with mainframes as the backbone of the corporate data processing system."

Martin Banks

NEXT WEEK

Bring something sample

New samplers - and the best for your machine

Quicker by train

How to get the best training for your money

Expert analysis

The latest in artificial intelligence

French sauce

A look at what's new in French games

PLUS

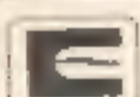
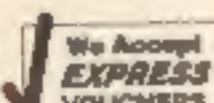
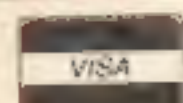
Another blistering collection of money-off vouchers, letters, reviews, features, games, classified bargains... plus more of the A-Z and the very latest in news and comment on the computer scene

**On sale Thursday
June 15th**



**ORDER
YOURS
NOW!**

**Only
58p!**



TREBLE H COMPUTING



★ NEW ★ POWER PACK PLUS

ATARI 520 STFM 1 MEG DRIVE
FIRST BASIC, ORGANISER, FIRST MUSIC, XENON, DOUBLE DRAGON, NEBULUS, ELIMINATOR, OUT-RUN, GAUNTLET II, SUPER HUEY, AFTERBURNER, R-TYPE, PREDATOR, SUPER HANG-ON, BLACK LAMP, STARGLIDER, SPACE HARRIER, BOMB JACK, OVERLANDER, PACMANIA, STAR GOOSE, STAR RAY, BOMBUZAL.

+ JOYSTICK + 80 CAP. DISK BOX
+ 10 x 3 1/2" DS/DD DISKS
+ MOUSE MAT

**ALL FOR ONLY
£384.99**

ACCESSORIES

| | |
|--|---------|
| Amiga A501 RAM Upgrade..... | £129.99 |
| ST Multiface | £49.95 |
| Disk Organiser for Above | £10.00 |
| Workbench 1.3 | £13.50 |
| Joystick/Mouse Extension..... | £5.50 |
| Disk Drive Cleaner (3.5 or 5.25) | £4.95 |
| Mouse Mat (Soft) | £4.50 |
| ST or Amiga Dust Cover | £6.50 |
| Amiga to Scart Lead | £9.95 |
| ST to Scart Lead | £9.95 |
| Quickshot II Joystick | £8.50 |
| Cheetah 125+ Joystick..... | £6.95 |
| DCOMJoystick (Fully Microswitched) | £9.95 |
| Competition Pro 5000 (Black) | £11.50 |
| Competition Pro 5000 (Clear) | £12.50 |
| 50 x 3.5" Disk Labels | £1.20 |
| 80 Capacity 3.5" Disk Box..... | £8.95 |
| Monitor Covers From | £6.95 |
| Konix Speedking | £10.50 |
| Konix Navigator | £12.25 |
| ST Modulator | £59.95 |

MUSIC AND SOUND

| | |
|--------------------------|---------|
| ST | |
| Steinberg Pro-24 | £249.95 |
| C-Lab Creator | £239.99 |
| C-Lab Notator | £359.99 |
| EZ Track Plus | £49.95 |
| Super Conductor | £39.99 |
| Pro Sound Designer | £49.99 |
| ST Replay 4 | £64.99 |

| | |
|-----------------------------------|---------|
| AMIGA | |
| Aegis Sonix V.2 | £44.95 |
| Aegis AudioMaster II | £59.95 |
| Amas | £77.99 |
| Future Sound | £74.99 |
| Perfect Sound | £74.99 |
| Pro Sound Designer Gold | £74.99 |
| Eidersoft Midi Interface | £24.95 |
| Datel Midi Interface | £34.95 |
| Music X | Phone |
| Dr T's KCS | £159.99 |
| Casio C2-230S Midi Keyboard | £199.99 |
| Casio MT-240 Midi Keyboard | £129.99 |

| | |
|--|---------|
| ATARI 520 STFM 1 Meg Drive | £269.99 |
| ATARI 520 STFM 1 Meg Drive + Super Pack | £349.99 |
| * NEW* ATARI 520 STFM 1 Meg Drive + Power Pack | £349.99 |
| ATARI 1040 STFM + Professional or Games Pack | £439.99 |
| ATARI 1040 STFM + Steinberg Pro-12 | £439.99 |
| * NEW * MEG 1 ST Inc. Professional Pack | £529.99 |

ADD £99.99 TO INCLUDE SM124 MONO MONITOR WITH ANY OF ABOVE

| | |
|--|---------|
| AMIGA 500 Inc. Modulator | £359.99 |
| AMIGA 500 Inc. 1/2 RAM Expansion + Dragon's Lair | £489.99 |
| AMIGA 500 + 1084S Med. Res. Colour Monitor | £589.99 |
| AMIGA AIR MILES PACK Inc. (Same as Before) | £439.99 |

GAMES SOFTWARE

| | AMIGA | ST |
|--------------------------------|----------|----------|
| Airball | £13.50 | £13.50 |
| Archipelagos | Out Soon | £16.50 |
| Balance of Power 1990 | £16.50 | £16.50 |
| Ballistik | £13.50 | £13.50 |
| Barbarian II | Out Soon | £13.50 |
| Battlehawks | £16.50 | £16.50 |
| Blasteroids | £16.50 | £16.50 |
| Butcher Hill | £13.99 | £13.99 |
| Chuckie Egg II | £13.50 | £13.50 |
| Dragon's Lair (1 Meg) | £29.99 | £16.50 |
| Falcon | £19.50 | £16.50 |
| Fed. of Free Traders | Out Soon | £20.99 |
| F-16 Combat Pilot | £16.50 | £16.50 |
| Fright Night | £13.50 | £13.50 |
| Gold Rush | £17.50 | £17.50 |
| Kick Off | Out Soon | £13.50 |
| Kings Quest IV | £20.99 | £20.99 |
| Lords of the Rising Sun | £19.50 | £13.50 |
| May Day Squad | £13.50 | £13.50 |
| Operation Neptune | £16.50 | £16.50 |
| Operation Wolf | £13.99 | £13.99 |
| Pac-Land | £16.50 | £13.50 |
| Police Quest II | £17.50 | £17.50 |
| Prison | £13.50 | £13.50 |
| R-Type | £17.50 | £13.99 |
| Rambo III | £13.99 | £13.99 |
| Road Blasters | £13.99 | £13.99 |
| Robocop | £17.50 | £13.99 |
| Rocket Ranger | £19.50 | Out Soon |
| Run the Gauntlet | £16.50 | £13.50 |
| Super Hang-On | £17.50 | £17.50 |
| Sword of Sodan | £16.50 | £16.50 |
| Steve Davis Snooker | £14.99 | £14.99 |
| The Kristal | £20.99 | Out Soon |
| T.V. Sports Football | £19.50 | £13.50 |
| Vindicators | £16.50 | £16.50 |
| War in Middle Earth | £16.50 | £16.50 |
| Zak McKracken | £17.50 | £17.50 |
| 3D Pool | £16.50 | £16.50 |
| Test Drive II | £20.99 | £17.99 |
| Battlechess | £17.99 | £17.99 |
| Airborne Ranger | £17.99 | £17.99 |
| Cyberoid II | £13.50 | £13.50 |
| Deja Vu II | £18.50 | £18.50 |
| Millenium 2.2 | £16.50 | £16.50 |
| Murder In Venice | £16.50 | £16.50 |
| Sorcerer Lord | £16.50 | £16.50 |
| Tech | £13.50 | £13.50 |
| Voyager | £16.50 | £16.50 |
| Butcher Hill | £14.50 | £14.50 |
| Hawkeye | £13.99 | £13.99 |
| Populous | £17.50 | £17.50 |
| Premier Collection | £20.99 | £20.99 |
| Elite | £16.50 | £16.50 |
| Personal Nightmare | £17.50 | £17.50 |
| American Ice Hockey | £16.50 | £16.50 |
| Running Man | £13.50 | £13.50 |
| Leisure Suit Larry | £17.50 | £17.50 |
| R. Dalglish's Soccer Mgr | £13.50 | £13.50 |
| Football Director II | £10.50 | £10.50 |

★ NEW ★ SPECIAL PACK

AMIGA 500 WITH MODULATOR
WORKBENCH 1.3 AND MANUALS
RETURN OF THE JEDI, ELIMINATOR, CUSTODIAN,
POWERPLAY, MERCENARY, ZYNAPS, HELLBENT, WAR-
LOCK QUEST, 24 PUBLIC DOMAIN SOFTWARE ON 4
DISKS, FANTA JOYSTICK
+ 80 CAPACITY DISK BOX
+ 10 x 3 1/2" DS/DD DISKS
+ MOUSE MAT

**ALL FOR ONLY
£399.99**

MONITORS

| | |
|-----------------------|---------|
| ATARI SM 124 | £109.99 |
| ATARI SC 1224 | £279.99 |
| COMMODORE 1084S | £259.99 |
| PHILIPS 8833 | £229.99 |

DRIVES

| | |
|--|---------|
| CUMANA 1 MEG 3.5" for ST | £99.99 |
| CUMANA 1 MEG 3.5" for Amiga | £94.99 |
| TRIANGLE 1 MEG 3.5" for ST | £94.99 |
| TRIANGLE 1 MEG 3.5" for Amiga | £84.99 |
| TRIANGLE 5.25" for ST or Amiga | £114.99 |
| TRIANGLE 3.5" + 5.25" Multidrive | £194.99 |

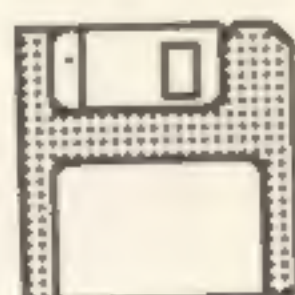
PRINTERS

| | |
|----------------------------------|---------|
| STAR LC10 mono inc Cable | £214.99 |
| STAR LC10 colour inc Cable | £249.99 |
| CITIZEN 120/D inc Cable | £139.99 |
| EPSON LX800 | £244.99 |
| STAR LC 24/10 inc Cable | £324.99 |

HARD DRIVES

ATARI, SUPRA AND TRIANGLE AVAILABLE.
PLEASE CALL FOR
* BEST PRICES *

DISKS



**TOP QUALITY
3 1/2" DS/DD
GUARANTEED
BULK DISKS**



| | |
|-----------|---------|
| 10 | £8.25 |
| 25 | £19.95 |
| 50 | £36.50 |
| 100 | £70.00 |
| 200 | £134.00 |

INCLUDING LABELS

ART & ANIMATION

| | |
|---------------------------|--------|
| ST | |
| Degas Elite | £19.95 |
| Cyber Paint 2 | £54.95 |
| Cyber Studio CAD 3D | £69.95 |
| Spectrum 512 | £44.95 |
| Quantum Paint Pro | £32.95 |

| | |
|---|---------|
| AMIGA | |
| Lights, Camera, Action | £47.95 |
| Zoetrope | £79.95 |
| Aegis Videoscape 3D | £109.99 |
| Deluxe Paint II (while stocks last) | £29.95 |
| Comic Setter | £44.99 |
| Mini-Gen (Genlock) | £104.99 |
| Moviesetter | £59.95 |
| Coming Soon Deluxe Paint III at £69.95 | |

**IF YOU CAN NOT SEE WHAT YOU
WANT, PLEASE CALL AS WE CAN
NOT LIST EVERYTHING AVAILABLE**

ATARI PC's from £599, Commodore PC's from £345
A2000's • Laser Printers • Monitor Stands • Business
Software • Educational Software • Printer Ribbons •
Printer Leads • Printer Stands • ST Clocks • Languages •
Replacement Mouse •

B2000 + XT Bridgeboard + A2090 20 Mb Hard
Disk + 1084S Monitor

£1499.00



CALL FOR BEST PRICES



All prices include VAT. Please send Cheques/PO made payable to:-

**TREBLE H COMPUTING
DEPT NCE, CROMER HOUSE,
CAXTON WAY, STEVENAGE,
HERTS. SG1 2DF**

★ CREDIT CARD HOTLINE: 0438 361738 ★
FAX: 0438 740 794

If you do send cash please send it Registered.
All Goods are sent First Class/Registered. Please add £3.00 for outside U.K.
Large Orders ie. Amigas, ST, Monitors etc are always sent by courier.
Please add £6.00, if you require Next Day Courier Delivery on other items.

All prices are correct at time of going to Press, and are subject to change without prior notice

Atari 520STFM POWER PACK

only

£319*

NORTH LONDON



99 Park Street Lane,
BRICKET WOOD,
St Albans, Herts AL2 2JA.
(0727) 72790

**We Accept
EXPRESS
VOUCHERS**

COMPUTER

EXPRESS

WEST LONDON



304 Kingshill Ave,
(off Uxbridge Road)
HAYES, Middlesex.
01-841 8744

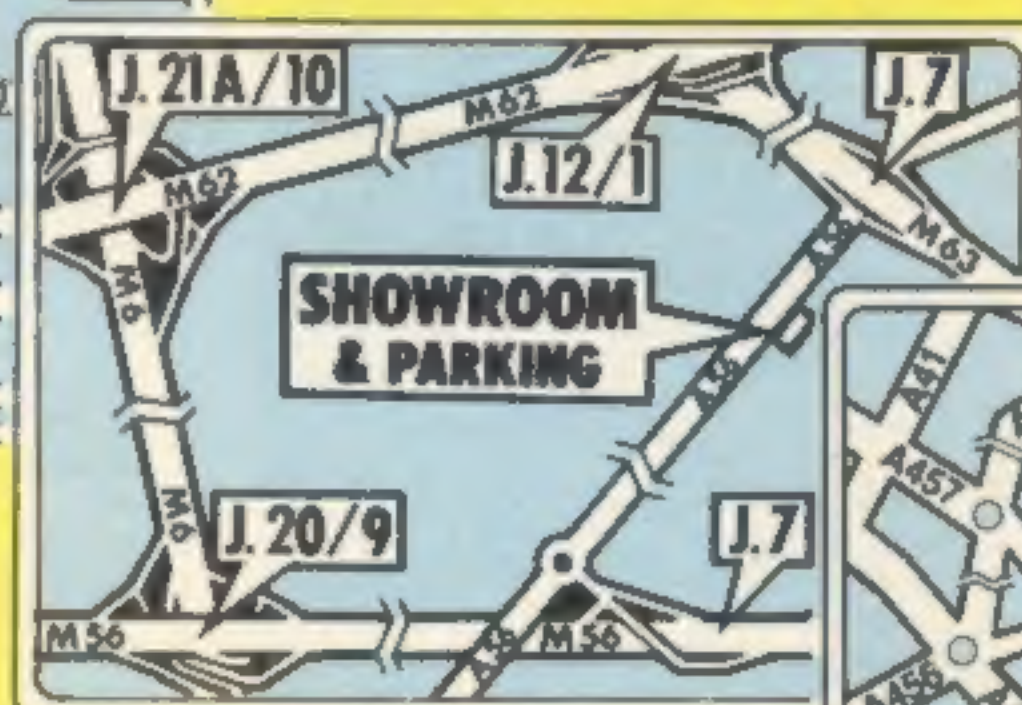
MANCHESTER

SHOWROOM OPENING HOURS:

Monday-Friday 9am-6pm

Saturday 10am-5pm

BIRMINGHAM



85 Washway Road (A56),
(opposite IBM)
SALE, MANCHESTER M33 1TQ.
061-962 0780



1046 Coventry Road (A45),
HAYMILLS, BIRMINGHAM B25 8DP
021-772 5212

ATARI 520STFM

**with 1 Megabyte Drive and
New POWER PACK of software.**

worth over £550 worth at rec. retail price,
with Atari BASIC and CX40 Joystick.

including Afterburner, Black Lamp, Bomb Jack, Bombuzal, Double Dragon, Eliminator, Gauntlet II, Nebulus, Outrun, Overlander, Pacmania, Predator, R-Type, Space Harrier, Star Goose, Starglider, StarRay, Super Hang-on, Super Huey, Xenon. Plus Business Software - Organiser, Hisoft First Basic, and First Music.

Only £319.00*

(£374.33 including VAT and next day delivery.)

Plus many more bargains....

ATARI 520STFM

With 1 Megabyte Drive & SUPER PACK of software. Worth over £450 worth at normal retail price. Including Organiser Business Software, Chopper X, Ranarama, Starquake, Genesis, Black Lamp, Thrust, Test Drive, Buggy Boy, Quadrangle, Xenon, Wizball, Seconds Out, Zynaps, Marble Madness, Beyond Ice Palace, Thundercats, Summer Olympiad, Arkonoid II, Eddie Edwards, Ikari Warriors.

Special Price £279.00*
(£328.25 including VAT and next day delivery.)

ATARI STARTER KIT

Exclusive to Computer Express. Contains ST OWNER'S SECOND MANUAL, 5 DISKS OF PUBLIC DOMAIN SOFTWARE and DELUXE MOUSE MAT

EXPLORER PACK

Atari 520STFM with 1Mb Built-in Disk Drive, Mouse, Ranarama, Tutorials, Atari ST BASIC.

Special Low Price £235.00*

PROFESSIONAL PACK 1040

Atari 1040STFM with Microsoft Write, Superbase Personal, VIP Professional and Atari BASIC.

Special Low Price £389.00

ATARI HARDWARE

| | |
|---|----------|
| Atari SM124 12" High Res Mono Monitor | £119.00 |
| Atari SC1224 12" Med Res Colour Monitor | £339.00 |
| Cumana 1Mb Double sided 3.5" Disk Drive | £90.00 |
| Philips 8833 Med Res Colour Monitor - Excellent Buy | £249.00 |
| Supra Drive 30Mb External Hard Disk - Auto Boot! | £478.00 |
| Atari SLM804 Laser Printer 8 pages/min 300dpi | £1045.00 |
| Supra 2400 Modem V21/V22/V22bis | £159.00 |
| Pace Linnet Modem V21/V23 with cables | £99.00 |

ATARI MEGA ST

With 1Mb Drive, Mouse and Professional Pack Software

| | |
|------------------|----------|
| MEGA 1 - 1Mb RAM | £499.00 |
| MEGA 2 - 2Mb RAM | £799.00 |
| MEGA 4 - 4Mb RAM | £1099.00 |

ATARI PCs

The masters of the home computer also make popular IBM compatible PCs. The AT compatible 80286 based machine is a real winner at such a low price. All machines have at least 3 internal expansion slots. Choice of monitor.

| | |
|--|--------|
| PC3-HD 30Mb Hard Disk, Mono EGA Monitor | £599 |
| PC4-HD 286, 60Mb Hard Disk, Mono EGA Monitor | £1,399 |
| PC5-HD 386, 60Mb Hard Disk, Mono EGA Monitor | £1,999 |
| PC5-HD 386, 60Mb Hard Disk, Colour VGA Monitor | £2,599 |

COMMODORE AMIGA 500

With free Modulator £319.00
With free 7 Pack Games Software £345.00

AMIGA HARDWARE

| | |
|---|---------|
| Amiga Mini Genlock | £99.00 |
| Amiga External Drive 3.5" | £90.00 |
| Amiga 500 External 20Mb Hard Disk with SCSI | £499.00 |

Large Range of Popular Atari and Amiga Software Available.

SCHNEIDER PERSONAL COMPUTER

A Quality PC at an unbelievably low price! The Schneider Euro PC is the ideal first time user's machine. Full size keyboard, choice of mono or colour monitor, twin floppy drives, with plenty of room for external expansion. Full 12 months warranty.

| | |
|--------------------------------|-------|
| Euro PC 12" Mono | £399 |
| Euro PC 14" Colour | £549 |
| Schneider AT Single Drive Mono | £899 |
| Single Drive 14" EGA Colour | £1149 |
| Schneider AT 20Mb HD Mono | £1249 |
| AT 20Mb HD 14" EGA Colour | £1399 |

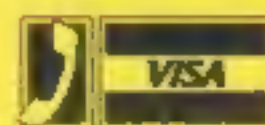
*Prices exclude VAT and delivery.
All prices/specs subject to change.

We're there because you're there.

CALL FOR FULL PRICE LIST
EXPORT AND TRADE ENQUIRIES WELCOME
TELEPHONE AND MAIL ORDERS WELCOME



CALL 0727 37451



OVER 2,800 ITEMS AVAILABLE
ALL GOODS GUARANTEED
CREDIT CARDS NOT DEBITED UNTIL DESPATCH